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METHODS AND COMPOSITIONS FOR INHIBITION OF MEMBRANE
FUSION-ASSOCIATED EVENTS, INCLUDING HIV TRANSMISSION

Hepatitis B virus

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gi t.p. *ab* This is a Continuation-In-Part of Serial No. 08/360,107 filed December 20, 1994, which is a Continuation-In-Part of Serial No. 08/255,208 filed June 7, 1994, which is a Continuation-In-Part of Serial No. 08/073,028 filed June 7, 1993, each of which is incorporated herein by reference in its entirety.

10 This invention was made with Government support under Grant No. AI-30411-02 awarded by the National Institutes of Health. The Government has certain rights in the invention.

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1. INTRODUCTION

- 15 The present invention relates, first, to DP178 (SEQ ID NO:1), a peptide corresponding to amino acids 638 to 673 of the HIV-1_{LA1} transmembrane protein (TM) gp41, and portions or analogs of DP178 (SEQ ID NO:1), which exhibit anti-membrane fusion capability,
- 20 antiviral activity, such as the ability to inhibit HIV transmission to uninfected CD-4⁺ cells, or an ability to modulate intracellular processes involving coiled-coil peptide structures. Further, the invention relates to the use of DP178 (SEQ ID NO:1) and DP178
- 25 portions and/or analogs as antifusogenic or antiviral compounds or as inhibitors of intracellular events involving coiled-coil peptide structures. The present invention also relates to peptides analogous to DP107
- 30 ~~(SEQ ID NO:25)~~, a peptide corresponding to amino acids 558 to 595 of the HIV-1_{LA1} transmembrane protein (TM) gp41, having amino acid sequences present in other viruses, such as enveloped viruses, and/or other organisms, and further relates to the uses of such peptides. These peptides exhibit anti-membrane fusion
- 35 capability, antiviral activity, or the ability to

modulate intracellular processes involving coiled-coil peptide structures. The present invention additionally relates to methods for identifying compounds that disrupt the interaction between DP178 and DP107, and/or between DP107-like and DP178-like peptides. Further, the invention relates to the use of the peptides of the invention as diagnostic agents. For example, a DP178 peptide may be used as an HIV subtype-specific diagnostic. The invention is demonstrated, first, by way of an Example wherein DP178 (SEQ ID:1), and a peptide whose sequence is homologous to DP178 are each shown to be potent, non-cytotoxic inhibitors of HIV-1 transfer to uninfected CD-4⁺ cells. The invention is further demonstrated by Examples wherein peptides having structural and/or amino acid motif similarity to DP107 and DP178 are identified in a variety of viral and nonviral organisms, and in examples wherein a number of such identified peptides derived from several different viral systems are demonstrated to exhibit antiviral activity.

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2. BACKGROUND OF THE INVENTION

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2.1 MEMBRANE FUSION EVENTS

Membrane fusion is a ubiquitous cell biological process (for a review, see White, J.M., 1992, Science 258:917-924). Fusion events which mediate cellular housekeeping functions, such as endocytosis, constitutive secretion, and recycling of membrane components, occur continuously in all eukaryotic cells.

Additional fusion events occur in specialized cells. Intracellularly, for example, fusion events are involved in such processes as occur in regulated exocytosis of hormones, enzymes and neurotransmitters.

Intercellularly, such fusion events feature prominently in, for example, sperm-egg fusion and myoblast fusion.

5 Fusion events are also associated with disease states. For example, fusion events are involved in the formation of giant cells during inflammatory reactions, the entry of all enveloped viruses into cells, and, in the case of human immunodeficiency virus (HIV), for example, are responsible for the virally induced cell-cell fusion which leads to cell death.

CL V/L 2.2. THE HUMAN IMMUNODEFICIENCY VIRUS

15 The human immunodeficiency virus (HIV) has been implicated as the primary cause of the slowly degenerative immune system disease termed acquired immune deficiency syndrome (AIDS) (Barre-Sinoussi, F. et al., 1983, Science 220:868-870; Gallo, R. et al., 1984, Science 224:500-503). There are at least two distinct types of HIV: HIV-1 (Barre-Sinoussi, F. et al., 1983, Science 220:868-870; Gallo R. et al., 1984, Science 224:500-503) and HIV-2 (Clavel, F. et al., 1986, Science 233:343-346; Guyader, M. et al., 1987, Nature 326:662-669). Further, a large amount of genetic heterogeneity exists within populations of each of these types. Infection of human CD-4⁺ T-lymphocytes with an HIV virus leads to depletion of the cell type and eventually to opportunistic infections, neurological dysfunctions, neoplastic growth, and ultimately death.

30 HIV is a member of the lentivirus family of retroviruses (Teich, N. et al., 1984, RNA Tumor Viruses, Weiss, R. et al., eds., CSH-Press, pp. 949-956). Retroviruses are small enveloped viruses that contain a diploid, single-stranded RNA genome, and

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replicate via a DNA intermediate produced by a virally-encoded reverse transcriptase, an RNA-dependent DNA polymerase (Varmus, H., 1988, Science 240:1427-1439). Other retroviruses include, for example, oncogenic viruses such as human T-cell leukemia viruses (HTLV-I, -II, -III), and feline leukemia virus.

The HIV viral particle consists of a viral core, composed of capsid proteins, that contains the viral RNA genome and those enzymes required for early replicative events. Myristylated Gag protein forms an outer viral shell around the viral core, which is, in turn, surrounded by a lipid membrane enveloped derived from the infected cell membrane. The HIV enveloped surface glycoproteins are synthesized as a single 160 Kd precursor protein which is cleaved by a cellular protease during viral budding into two glycoproteins, gp41 and gp120. gp41 is a transmembrane protein and gp120 is an extracellular protein which remains non-covalently associated with gp41, possibly in a trimeric or multimeric form (Hammarskjold, M. and Rekosh, D., 1989, Biochem. Biophys. Acta 989:269-280).

HIV is targeted to CD-4⁺ cells because the CD-4 cell surface protein acts as the cellular receptor for the HIV-1 virus (Dalglish, A. et al., 1984, Nature 312:763-767; Klatzmann et al., 1984, Nature 312:767-768; Maddon et al., 1986, Cell 47:333-348). Viral entry into cells is dependent upon gp120 binding the cellular CD-4⁺ receptor molecules (McDougal, J.S. et al., 1986, Science 231:382-385; Maddon, P.J. et al., 1986, Cell 47:333-348) and thus explains HIV's tropism for CD-4⁺ cells, while gp41 anchors the enveloped glycoprotein complex in the viral membrane.

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2.3. HIV TREATMENT

HIV infection is pandemic and HIV associated diseases represent a major world health problem. Although considerable effort is being put into the
5 successful design of effective therapeutics, currently no curative anti-retroviral drugs against AIDS exist. In attempts to develop such drugs, several stages of the HIV life cycle have been considered as targets for therapeutic intervention (Mitsuya, H. et al., 1991,
10 FASEB J. 5:2369-2381). For example, virally encoded reverse transcriptase has been one focus of drug development. A number of reverse-transcriptase-targeted drugs, including 2',3'-dideoxynucleoside analogs such as AZT, ddI, ddC, and d4T have been
15 developed which have been shown to be active against HIV (Mitsuya, H. et al., 1991, Science 249:1533-1544). While beneficial, these nucleoside analogs are not curative, probably due to the rapid appearance of drug resistant HIV mutants (Lander, B. et al., 1989,
20 Science 243:1731-1734). In addition, the drugs often exhibit toxic side effects such as bone marrow suppression, vomiting, and liver function abnormalities.

Attempts are also being made to develop drugs
25 which can inhibit viral entry into the cell, the earliest stage of HIV infection. Here, the focus has thus far been on CD4, the cell surface receptor for HIV. Recombinant soluble CD4, for example, has been shown to inhibit infection of CD-4⁺ T-cells by some
30 HIV-1 strains (Smith, D.H. et al., 1987, Science 238:1704-1707). Certain primary HIV-1 isolates, however, are relatively less sensitive to inhibition by recombinant CD-4 (Daar, E. et al., 1990, Proc. Natl. Acad. Sci. USA 87:6574-6579). In addition,
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recombinant soluble CD-4 clinical trials have produced inconclusive results (Schooley, R. et al., 1990, Ann. Int. Med. 112:247-253; Kahn, J.O. et al., 1990, Ann. Int. Med. 112:254-261; Yarchoan, R. et al., 1989, Proc. Vth Int. Conf. on AIDS, p. 564, MCP 137).

5 The late stages of HIV replication, which involve crucial virus-specific secondary processing of certain viral proteins, have also been suggested as possible anti-HIV drug targets. Late stage processing is dependent on the activity of a viral protease, and
10 drugs are being developed which inhibit this protease (Erickson, J., 1990, Science 249:527-533). The clinical outcome of these candidate drugs is still in question.

15 Attention is also being given to the development of vaccines for the treatment of HIV infection. The HIV-1 enveloped proteins (gp160, gp120, gp41) have been shown to be the major antigens for anti-HIV antibodies present in AIDS patients (Barin, et al., 1985, Science 228:1094-1096). Thus far, therefore,
20 these proteins seem to be the most promising candidates to act as antigens for anti-HIV vaccine development. To this end, several groups have begun to use various portions of gp160, gp120, and/or gp41 as immunogenic targets for the host immune system.
25 See for example, Ivanoff, L. et al., U.S. Pat. No. 5,141,867; Saith, G. et al., WO 92/22,654; Shafferman, A., WO 91/09,872; Formoso, C. et al., WO 90/07,119. Clinical results concerning these candidate vaccines, however, still remain far in the future.

30 Thus, although a great deal of effort is being directed to the design and testing of anti-retroviral drugs, a truly effective, non-toxic treatment is still needed.

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3. SUMMARY OF THE INVENTION

The present invention relates, first, to DP178 (SEQ ID:1), a 36-amino acid synthetic peptide corresponding to amino acids 638 to 673 of the transmembrane protein (TM) gp41 from the HIV-1 isolate LAI (HIV-1_{LAI}), which exhibits potent anti-HIV-1 activity. As evidenced by the Example presented below, in Section 6, the DP178 (SEQ ID:1) antiviral activity is so high that, on a weight basis, no other known anti-HIV agent is effective at concentrations as low as those at which DP178 (SEQ ID:1) exhibits its inhibitory effects.

The invention further relates to those portions and analogs of DP178 which also show such antiviral activity, and/or show anti-membrane fusion capability, or an ability to modulate intracellular processes involving coiled-coil peptide structures. The term "DP178 analog" refers to a peptide which contains an amino acid sequence corresponding to the DP178 peptide sequence present within the gp41 protein of HIV-1_{LAI}, but found in viruses and/or organisms other than HIV-1_{LAI}. Such DP178 analog peptides may, therefore, correspond to DP178-like amino acid sequences present in other viruses, such as, for example, enveloped viruses, such as retroviruses other than HIV-1_{LAI}, as well as non-enveloped viruses. Further, such analogous DP178 peptides may also correspond to DP178-like amino acid sequences present in nonviral organisms.

The invention further relates to peptides DP107 ~~(SEQ ID NO:25)~~ analogs. DP107 is a peptide corresponding to amino acids 558-595 of the HIV-1_{LAI} transmembrane protein (TM) gp41. The term "DP107 analog" as used herein refers to a peptide which contains an amino acid sequence corresponding to the

DP107 peptide sequence present within the gp41 protein of HIV-1_{LAI}, but found in viruses and organisms other than HIV-1_{LAI}. Such DP107 analog peptides may, therefore, correspond to DP107-like amino acid sequences present in other viruses, such as, for example, 5 enveloped viruses, such as retroviruses other than HIV-1_{LAI}, as well as non-enveloped viruses. Further, such DP107 analog peptides may also correspond to DP107-like amino acid sequences present in nonviral organisms.

10 Further, the peptides of the invention include DP107 analog and DP178 analog peptides having amino acid sequences recognized or identified by the 107x178x4, ALLMOTI5 and/or PLZIP search motifs described herein.

15 The peptides of the invention may, for example, exhibit antifusogenic activity, antiviral activity, and/or may have the ability to modulate intracellular processes which involve coiled-coil peptide structures. With respect to the antiviral activity of 20 the peptides of the invention, such an antiviral activity includes, but is not limited to the inhibition of HIV transmission to uninfected CD-4⁺ cells. Additionally, the antifusogenic capability, antiviral activity or intracellular modulatory 25 activity of the peptides of the invention merely requires the presence of the peptides of the invention, and, specifically, does not require the stimulation of a host immune response directed against such peptides.

30 The peptides of the invention may be used, for example, as inhibitors of membrane fusion-associated events, such as, for example, the inhibition of human and non-human retroviral, especially HIV, transmission to uninfected cells. It is further contemplated that 35

the peptides of the invention may be used as modulators of intracellular events involving coiled-coil peptide structures.

5 The peptides of the invention may, alternatively, be used to identify compounds which may themselves exhibit antifusogenic, antiviral, or intracellular modulatory activity. Additional uses include, for example, the use of the peptides of the invention as organism or viral type and/or subtype-specific diagnostic tools.

10 The terms "antifusogenic" and "anti-membrane fusion", as used herein, refer to an agent's ability to inhibit or reduce the level of membrane fusion events between two or more moieties relative to the level of membrane fusion which occurs between said
15 moieties in the absence of the peptide. The moieties may be, for example, cell membranes or viral structures, such as viral envelopes or pili. The term "antiviral", as used herein, refers to the compound's ability to inhibit viral infection of cells, via, for
20 example, cell-cell fusion or free virus infection. Such infection may involve membrane fusion, as occurs in the case of enveloped viruses, or some other fusion event involving a viral structure and a cellular structure (e.g., such as the fusion of a viral pilus
25 and bacterial membrane during bacterial conjugation).

It is also contemplated that the peptides of the invention may exhibit the ability to modulate intracellular events involving coiled-coil peptide structures. "Modulate", as used herein, refers to a
30 stimulatory or inhibitory effect on the intracellular process of interest relative to the level or activity of such a process in the absence of a peptide of the invention.

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Embodiments of the invention are demonstrated below wherein an extremely low concentration of DP178 (SEQ ID:1), and very low concentrations of a DP178 homolog (SEQ ID:3) are shown to be potent inhibitors of HIV-1 mediated CD-4⁺ cell-cell fusion (i.e.,
5 syncytial formation) and infection of CD-4⁺ cells by cell-free virus. Further, it is shown that DP178 (SEQ ID:1) is not toxic to cells, even at concentrations 3 logs higher than the inhibitory DP-178 (SEQ ID:1) concentration.

10 The present invention is based, in part, on the surprising discovery that the DP107 and DP178 domains of the HIV gp41 protein non-covalently complex with each other, and that their interaction is required for the normal infectivity of the virus. This discovery
15 is described in the Example presented, below, in Section 8. The invention, therefore, further relates to methods for identifying antifusogenic, including antiviral, compounds that disrupt the interaction between DP107 and DP178, and/or between DP107-like and
20 DP178-like peptides.

Additional embodiments of the invention (specifically, the Examples presents in Sections 9-16 and 19-25, below) are demonstrated, below, wherein peptides, from a variety of viral and nonviral
25 sources, having structural and/or amino acid motif similarity to DP107 and DP178 are identified, and search motifs for their identification are described. Further, Examples (in Sections 17, 18, 25-29) are presented wherein a number of the peptides of the
30 invention are demonstrated exhibit substantial antiviral activity or activity predictive of antiviral activity.

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CL U/L. 3.1. DEFINITIONS

Peptides are defined herein as organic compounds comprising two or more amino acids covalently joined by peptide bonds. Peptides may be referred to with
5 respect to the number of constituent amino acids, i.e., a dipeptide contains two amino acid residues, a tripeptide contains three, etc. Peptides containing ten or fewer amino acids may be referred to as oligopeptides, while those with more than ten amino
10 acid residues are polypeptides. Such peptides may also include any of the modifications and additional amino and carboxy groups as are described herein.

Peptide sequences defined herein are represented by one-letter symbols for amino acid residues as
15 follows:

PO
A (alanine)
R (arginine)
N (asparagine)
D (aspartic acid)
C (cysteine)
20 Q (glutamine)
E (glutamic acid)
G (glycine)
H (histidine)
I (isoleucine)
L (leucine)
K (lysine)
M (methionine)
25 F (phenylalanine)
P (proline)
S (serine)
T (threonine)
W (tryptophan)
Y (tyrosine)
V (valine)

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4. BRIEF DESCRIPTION OF THE FIGURES

P FIG. 1. Amino acid sequence of DP178 (SEQ ID:1) derived from HIV_{LAI}; DP178 homologs derived from HIV-1_{SF2} (DP-185; SEQ ID:3), HIV-1_{RF} (SEQ ID:4), and HIV-1_{MN} (SEQ ID:5); DP178 homologs derived from amino acid sequences of two prototypic HIV-2 isolates, namely, HIV-2_{rod} (SEQ ID:6) and HIV-2_{NIHZ} (SEQ ID:7); control peptides: DP-180 (SEQ ID:2), a peptide incorporating the amino acid residues of DP178 in a scrambled sequence; DP-118 (SEQ ID:10) unrelated to DP178, which inhibits HIV-1 cell free virus infection; DP-125 (SEQ ID:8), unrelated to DP178, also inhibits HIV-1 cell free virus infection; DP-116 (SEQ ID:9), unrelated to DP178, is negative for inhibition of HIV-1 infection when tested using a cell-free virus infection assay. Throughout the figures, the one letter amino acid code is used.

P FIG. 2. Inhibition of HIV-1 cell-free virus infection by synthetic peptides. IC₅₀ refers to the concentration of peptide that inhibits RT production from infected cells by 50% compared to the untreated control. Control: the level of RT produced by untreated cell cultures infected with the same level of virus as treated cultures.

P FIG. 3. Inhibition of HIV-1 and HIV-2 cell-free virus infection by the synthetic peptide DP178 (SEQ ID:1). IC₅₀: concentration of peptide that inhibits RT production by 50% compared to the untreated control. Control: Level of RT produced by untreated cell cultures infected with the same level of virus as treated cultures.

P FIG. 4A-4B. Fusion Inhibition Assays. FIG 4A: DP178 (SEQ ID:1) inhibition of HIV-1 prototypic isolate-mediated syncytial formation; data represents the number of virus-induced syncytial per cell. FIG.

4B: DP-180 (SEQ ID:2) represents a scrambled control peptide; DP-185 (SEQ ID:3) represents a DP178 homolog derived from HIV-1_{SF2} isolate; Control, refers to the number of syncytial produced in the absence of peptide.

5 FIG. 5. Fusion inhibition assay: HIV-1 vs. HIV-2. Data represents the number of virus-induced syncytial per well. ND: not done.

10 FIG. 6. Cytotoxicity study of DP178 (SEQ ID:1) and DP-116 (SEQ ID:9) on CEM cells. Cell proliferation data is shown.

15 FIG. 7. Schematic representation of HIV-gp41 and maltose binding protein (MBP)-gp41 fusion proteins. DP107 and DP178 are synthetic peptides based on the two putative helices of gp41. The letter P in the DP107 boxes denotes an Ile to Pro mutation at amino acid number 578. Amino acid residues are numbered according to Meyers et al., "Human Retroviruses and AIDS", 1991, Theoret. Biol. and Biophys. Group, Los Alamos Natl. Lab., Los Alamos, NM.
20 The proteins are more fully described, below, in Section 8.1.1.

 FIG. 8. A point mutation alters the conformation and anti-HIV activity of M41.

25 FIG. 9. Abrogation of DP178 anti-HIV activity. Cell fusion assays were carried out in the presence of 10 nM DP178 and various concentrations of M41Δ178 or M41PΔ178.

30 FIG. 10. Binding of DP178 to leucine zipper of gp41 analyzed by FAb-D ELISA.

35 FIG. 11A-B. Models for a structural transition in the HIV-1 TM protein. Two models are proposed which indicate a structural transition from a native oligomer to a fusogenic state following a trigger event (possibly gp120 binding to CD4). Common

features of both models include (1) the native state is held together by noncovalent protein-protein interactions to form the heterodimer of gp120/41 and other interactions, principally though gp41 interactive sites, to form homo-oligomers on the virus surface of the gp120/41 complexes; (2) shielding of the hydrophobic fusogenic peptide at the N-terminus (F) in the native state; and (3) the leucine zipper domain (DP107) exists as a homo-oligomer coiled coil only in the fusogenic state. The major differences in the two models include the structural state (native or fusogenic) in which the DP107 and DP178 domains are complexed to each other. In the first model (FIG. 11A) this interaction occurs in the native state and in the second (FIG. 11B), it occurs during the fusogenic state. When triggered, the fusion complex in the model depicted in (A) is generated through formation of coiled-coil interactions in homologous DP107 domains resulting in an extended α -helix. This conformational change positions the fusion peptide for interaction with the cell membrane. In the second model (FIG. 11B), the fusogenic complex is stabilized by the association of the DP178 domain with the DP107 coiled-coil.

FIG. 12. Motif design using heptad repeat positioning of amino acids of known coiled-coils.

FIG. 13. Motif design using proposed heptad repeat positioning of amino acids of DP107 and DP178.

FIG. 14. Hybrid motif design crossing GCN4 and DP107.

FIG. 15. Hybrid motif design crossing GCN4 and DP178.

FIG. 16. Hybrid motif design 107x178x4, crossing DP107 and DP178. ^(SEQ ID NO: 89) ^(SEQ ID NO: 1) This motif was found to be

the most consistent at identifying relevant DP107-like and DP178-like peptide regions.

FIG. 17. Hybrid motif design crossing GCN4, DP107, and DP178.

5 FIG. 18. Hybrid motif design ALLMOTI5 crossing GCN4, DP107, DP178, c-Fos c-Jun, c-Myc, and Flu Loop 36.

FIG. 19. PLZIP motifs designed to identify N-terminal proline-leucine zipper motifs.

10 FIG. 20. Search results for HIV-1 (BRU isolate) enveloped protein gp41. ^(SEQ ID NO:90) Sequence search motif designations: Spades (♠): 107x178x4; Hearts (♥) ALLMOTI5; Clubs (♣): PLZIP; Diamonds (♦): transmembrane region (the putative transmembrane domains were identified using a PC/Gene program
15 designed to search for such peptide regions). Asterisk (*): Lupas method. The amino acid sequences identified by each motif are bracketed by the respective characters. Representative sequences chosen based on 107x178x4 searches are underlined and
20 in bold. DP107 and DP178 sequences are marked, and additionally double-underlined and italicized.

FIG. 21. Search results for human respiratory syncytial virus (RSV) strain A2 fusion glycoprotein Fl. ^(SEQ ID NO:91) Sequence search motif designations
25 are as in FIG. 20.

FIG. 22. Search results for simian immunodeficiency virus (SIV) enveloped protein gp41 (AGM3 isolate). ^(SEQ ID NO:92) Sequence search motif designations
30 are as in FIG. 20.

FIG. 23. Search results for canine distemper virus (strain Onderstepoort) fusion glycoprotein 1. ^(SEQ ID NO:93) Sequence search motif designations
35 are as in FIG. 20.

FIG. 24. Search results for newcastle disease virus (strain Australia-Victoria/32) fusion glycoprotein F1. ^(SEQ ID NO: 94) Sequence search motif designations are as in FIG. 20.

5 FIG. 25. Search results for human parainfluenza 3 virus (strain NIH 47885) fusion glycoprotein F1. ^(SEQ ID NO: 95) Sequence search motif designations are as in FIG. 20.

10 FIG. 26. Search results for influenza A virus (strain A/AICHI/2/68) hemagglutinin precursor HA2. ^(SEQ ID NO: 96) Sequence search designations are as in FIG. 20.

15 FIG. 27A-D. Respiratory Syncytial Virus (RSV) peptide ^(SEQ ID NO: 97) antiviral and circular dichroism data. FIG. 27A-B: Peptides derived from the F2 DP178/DP107-like region. ^{B2} Antiviral and CD data. FIG. 27C-D: Peptides derived from the F1 DP107-like region. ^{B3} Peptide and CD data.

Antiviral activity (AV) is represented by the following qualitative symbols:

- 20 "- ", negative antiviral activity;
"+/- ", antiviral activity at greater than 100µg/ml;
"+ ", antiviral activity at between 50-100µg/ml;
"++ ", antiviral activity at between 20-50µg/ml;
25 "+++ ", antiviral activity at between 1-20µg/ml;
"++++ ", antiviral activity at <1µg/ml.

CD data, referring to the level of helicity is represented by the following qualitative symbol:

- 30 "- ", no helicity;
"+ ", 25-50% helicity;
"++ ", 50-75% helicity;
"++++ " 75-100% helicity.

35 IC₅₀ refers to the concentration of peptide necessary to produce only 50% of the number of syncytial relative to infected control cultures

containing no peptide. IC₅₀ values were obtained using purified peptides only.

FIG. 28A-B. Respiratory Syncytial Virus (RSV) DP178-like region (F1) peptide antiviral and CD data. Antiviral symbols, CD symbols, and IC₅₀ are as in FIG. 27A-D. IC₅₀ values were obtained using purified peptides only.

FIG. 29A-B. Peptides derived from the HPIV3 F1 DP107-like region. Peptide antiviral and CD data. Antiviral symbols, CD symbols, and IC₅₀ are as in FIG. 27A-D. Purified peptides were used to obtain IC₅₀ values, except where the values are marked by an asterisk (*), in which cases, the IC₅₀ values were obtained using a crude peptide preparation.

FIG. 29C. HPIV3 peptide T-184 CD spectrum at 1°C in 0.1M NaCl 10mM KPO₄, pH 7.0. The data demonstrates the peptide's helical secondary structure ($\theta_{222/208}=1.2$) over a wide range of concentrations (100-1500μM). This evidence is consistent with the peptide forming a helical coiled-coil structure.

FIG. 30A-B. Peptides derived from the HPIV3 F1 DP178-like region. Peptide antiviral and CD data. Antiviral symbols, CD symbols, and IC₅₀ are as in FIG. 27A-D. Purified peptides were used to obtain IC₅₀ values, except where the values are marked by an asterisk (*), in which cases, the IC₅₀ values were obtained using a crude peptide preparation.

FIG. 31. Motif search results for simian immunodeficiency virus (SIV) isolate MM251, enveloped polyprotein gp41. (SEQ ID NO:102) Sequence search designations are as in FIG. 20.

FIG. 32. Motif search results for Epstein-Barr Virus (Strain B95-8), glycoprotein gp110 precursor (designated gp115). (SEQ ID NO:103) BALF4. Sequence search designations are as in FIG. 20.

FIG. 33. Motif search results for Epstein-Barr Virus (Strain B95-8), BZLF1 trans-activator protein (designated EB1 or Zebra)^(SEQ ID NO:104). Sequence search designations are as in FIG. 20. Additionally, "e" refers to a well known DNA binding domain and "+" refers to a well known dimerization domain, as defined by Flemington and Speck (Flemington, E. and Speck, S.H., 1990, Proc. Natl. Acad. Sci. USA 87:9459-9463).

FIG. 34. Motif search results for measles virus (strain Edmonston), fusion glycoprotein F1₁^(SEQ ID NO:105). Sequence search designations are as in FIG. 20.

FIG. 35. Motif search results for Hepatitis B Virus (Subtype AYW), major surface antigen precursor^(SEQ ID NO:106). Sequence search designations are as in FIG. 20.

FIG. 36. Motif search results for simian Mason-Pfizer monkey virus, enveloped (TM) protein gp20₁^(SEQ ID NO:107). Sequence search designations are as in FIG. 20.

FIG. 37. Motif search results for Pseudomonas aeruginosa, fimbrial protein₁ (Pilin)₁^(SEQ ID NO:108). Sequence search designations are as in FIG. 20.

FIG. 38. Motif search results for Neisseria gonorrhoeae fimbrial protein (Pilin)₁^(SEQ ID NO:109). Sequence search designations are as in FIG. 20.

FIG. 39. Motif search results for Hemophilus influenzae fimbrial protein. Sequence search designations are as in FIG. 20.

FIG. 40. Motif search results for Staphylococcus aureus, toxic shock syndrome toxin-1₁^(SEQ ID NO:111). Sequence search designations are as in FIG. 20.

FIG. 41. Motif search results for Staphylococcus aureus enterotoxin Type E₁^(SEQ ID NO:112). Sequence search designations are as in FIG. 20.

FIG. 42. Motif search results for Staphylococcus aureus enterotoxin A₁^(SEQ ID NO:113). Sequence search designations are as in FIG. 20.

FIG. 43. Motif search results for Escherichia coli, heat labile enterotoxin A₁. Sequence search designations are as in FIG. 20. (SEQ ID NO: 114)

5 FIG. 44. Motif search results for human c-fos proto-oncoprotein. Sequence search designations are as in FIG. 20. (SEQ ID NO: 115)

FIG. 45. Motif search results for human lupus KU autoantigen protein P70. Sequence search designations are as in FIG. 20. (SEQ ID NO: 116)

10 FIG. 46. Motif search results for human zinc finger protein 10. Sequence search designations are as in FIG. 20. (SEQ ID NO: 117)

15 FIG. 47. Measles virus (MeV) fusion protein DP178-like region antiviral and CD data. Antiviral symbols, CD symbols, and IC₅₀ are as in FIG. 27A-D. IC₅₀ values were obtained using purified peptides. [T-25270: (SEQ ID NO: 118); T-26840: (SEQ ID NO: 119)]

FIG. 48. Simian immunodeficiency virus (SIV) TM (fusion) protein DP178-like region antiviral data. Antiviral symbols are as in FIG. 27A-D "NT", not tested. (SEQ ID NO: 120)

20 FIG. 49A-C. DP178-derived peptide antiviral data. The peptides listed herein were derived from the region surrounding the HIV-1 BRU isolate DP178 region (e.g., gp41 amino acid residues 615-717).

25 In instances where peptides contained DP178 point mutations, the mutated amino acid residues are shown with a shaded background. In instances in which the test peptide has had an amino and/or carboxy-terminal group added or removed (apart from the standard amido- and acetyl- blocking groups found on such peptides),
30 such modifications are indicated. FIG. 49A: The column to the immediate right of the name of the test peptide indicates the size of the test peptide and points out whether the peptide is derived from a one amino acid peptide "walk" across the DP178 region.
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The next column to the right indicates whether the test peptide contains a point mutation, while the column to its right indicates whether certain amino acid residues have been added to or removed from the DP178-derived amino acid sequence. FIG 49B: The column to the immediate right of the test peptide name indicates whether the peptide represents a DP178 truncation, the next column to the right points out whether the peptide contains a point mutation, and the column to its right indicates whether the peptide contains amino acids which have been added to or removed from the DP178 sequence itself. FIG. 49C: The column to the immediate right of the test peptide name indicates whether the test peptide contains a point mutation, while the column to its right indicates whether amino acid residues have been added to or removed from the DP178 sequence itself. IC₅₀ is as defined in FIG. 27A-D, and IC₅₀ values were obtained using purified peptides except where marked with an asterisk (*), in which case the IC₅₀ was obtained using a crude peptide preparation.

FIG. 50. DP107 and DP107 gp41 region truncated peptide antiviral data. ^(SEQ ID NO: 201) IC₅₀ as defined in FIG. 27A-D, and IC₅₀ values were obtained using purified peptides except where marked with an asterisk (*), in which case the IC₅₀ was obtained using a crude peptide preparation.

FIG. 51A-B. Epstein-Barr virus Strain B95-8 BZLF1 DP178/DP107 analog region peptide walks and electrophoretic mobility shift assay results. The peptides ^{B8} (T-423 to T-446, FIG. 51A; T-447 to T-461, FIG. 51B) represent one amino acid residue "walks" through the EBV Zebra protein region from amino acid residue 173 to 246.

The amino acid residue within this region which corresponds to the first amino acid residue of each peptide is listed to the left of each peptide, while the amino acid residue within this region which corresponds to the last amino acid residue of each peptide is listed to the right of each peptide. The length of each test peptide is listed at the far right of each line, under the heading "Res".

"ACT" refers to a test peptide's ability to inhibit Zebra binding to its response element. "+" refers to a visible, but incomplete, abrogation of the response element/Zebra homodimer complex; "+++" refers to a complete abrogation of the complex; and "-" represents a lack of complex disruption.

FIG. 52A-B. Hepatitis B virus subtype AYW major surface antigen precursor S protein DP178/DP107 analog region and peptide walks. 52A depicts Domain I (S protein amino acid residues 174-220), which contains a potential DP178/DP107 analog region. In addition, peptides are listed which represent one amino acid peptide "walks" through domain I. 52B depicts Domain II (S protein amino acid residues 233-291), which contains a second potential DP178/DP107 analog region. In addition, peptides are listed which represent one amino acid peptide "walks" through domain II.

DE CL 5. DETAILED DESCRIPTION OF THE INVENTION

Described herein are peptides which may exhibit antifusogenic activity, antiviral capability, and/or the ability to modulate intracellular processes involving coiled-coil peptide structures. The peptides described include, first, DP178 (SEQ ID NO:1), a gp41-derived 36 amino acid peptide and fragments and analogs of DP178.

In addition, the peptides of the invention described herein include peptides which are DP107 analogs. DP107 (SEQ ID NO:25) is a 38 amino acid peptide corresponding to residues 558 to 595 of the HIV-1_{LAI} transmembrane (TM) gp41 protein. Such DP107 analogs may exhibit antifusogenic capability, antiviral activity or an ability to modulate intracellular processes involving coiled-coil structures.

Further, peptides of the invention include DP107 and DP178 are described herein having amino acid sequences recognized by the 107x178x4, ALLMOTI5, and PLZIP search motifs. Such motifs are also discussed.

Also described here are antifusogenic, antiviral, intracellular modulatory, and diagnostic uses of the peptides of the invention. Further, procedures are described for the use of the peptides of the invention for the identification of compounds exhibiting antifusogenic, antiviral or intracellular modulatory activity.

While not limited to any theory of operation, the following model is proposed to explain the potent anti-HIV activity of DP178, based, in part, on the experiments described in the Examples, infra. In the HIV protein, gp41, DP178 corresponds to a putative α -helix region located in the C-terminal end of the gp41 ectodomain, and appears to associate with a distal site on gp41 whose interactive structure is influenced by the leucine zipper motif, a coiled-coil structure, referred to as DP107. The association of these two domains may reflect a molecular linkage or "molecular clasp" intimately involved in the fusion process. It is of interest that mutations in the C-terminal α -helix motif of gp41 (i.e., the D178 domain) tend to enhance the fusion ability of gp41, whereas mutations

in the leucine zipper region (i.e., the DP107 domain) decrease or abolish the fusion ability of the viral protein. It may be that the leucine zipper motif is involved in membrane fusion while the C-terminal α -helix motif serves as a molecular safety to regulate the availability of the leucine zipper during virus-induced membrane fusion.

On the basis of the foregoing, two models are proposed of gp41-mediated membrane fusion which are schematically shown in FIG. 11A-B. The reason for proposing two models is that the temporal nature of the interaction between the regions defined by DP107 and DP178 cannot, as yet, be pinpointed. Each model envisions two conformations for gp41 - one in a "native" state as it might be found on a resting virion. The other in a "fusogenic" state to reflect conformational changes triggered following binding of gp120 to CD4 and just prior to fusion with the target cell membrane. The strong binding affinity between gp120 and CD4 may actually represent the trigger for the fusion process obviating the need for a pH change such as occurs for viruses that fuse within intracellular vesicles. The two major features of both models are: (1) the leucine zipper sequences (DP107) in each chain of oligomeric enveloped are held apart in the native state and are only allowed access to one another in the fusogenic state so as to form the extremely stable coiled-coils, and (2) association of the DP178 and DP107 sites as they exist in gp41 occur either in the native or fusogenic state. FIG. 11A depicts DP178/DP107 interaction in the native state as a molecular clasp. On the other hand, if one assumes that the most stable form of the enveloped occurs in the fusogenic state, the model in FIG. 11B can be considered.

When synthesized as peptides, both DP107 and DP178 are potent inhibitors of HIV infection and fusion, probably by virtue of their ability to form complexes with viral gp41 and interfere with its fusogenic process; e.g., during the structural transition of the viral protein from the native structure to the fusogenic state, the DP178 and DP107 peptides may gain access to their respective binding sites on the viral gp41, and exert a disruptive influence. DP107 peptides which demonstrate anti-HIV activity are described in Applicants' co-pending application Serial No. 08/264,531, filed June 23, 1994, which is incorporated by reference herein in its entirety.

As shown in the Examples, infra, a truncated recombinant gp41 protein corresponding to the ectodomain of gp41 containing both DP107 and DP178 domains (excluding the fusion peptide, transmembrane region and cytoplasmic domain of gp41) did not inhibit HIV-1 induced fusion. However, when a single mutation was introduced to disrupt the coiled-coil structure of the DP107 domain -- a mutation which results in a total loss of biological activity of DP107 peptides -- the inactive recombinant protein was transformed to an active inhibitor of HIV-1 induced fusion. This transformation may result from liberation of the potent DP178 domain from a molecular clasp with the leucine zipper, DP107 domain.

For clarity of discussion, the invention will be described primarily for DP178 peptide inhibitors of HIV. However, the principles may be analogously applied to other viruses, both enveloped and nonenveloped, and to other non-viral organisms.

CL v/L 5.1. DP178 AND DP178-LIKE PEPTIDES

The DP178 peptide (SEQ ID:1) of the invention corresponds to amino acid residues 638 to 673 of the transmembrane protein gp41 from the HIV-1_{LAI} isolate, and has the 36 amino acid sequence (reading from amino to carboxy terminus): *PS.*

5
ti NH₂-YTSLIHSLIEESQNQQEKNEQELLELDKWASLWNWF-COOH (SEQ ID:1) *PS.*

P In addition to the full-length DP178 (SEQ ID:1) 36-mer, the peptides of the invention may include
10 truncations of the DP178 (SEQ ID:1) peptide which exhibit antifusogenic activity, antiviral activity and/or the ability to modulate intracellular processes involving coiled-coil peptide structures. Truncations
15 of DP178 (SEQ ID:1) peptides may comprise peptides of between 3 and 36 amino acid residues (*i.e.*, peptides ranging in size from a tripeptide to a 36-mer polypeptide), as shown in Tables I and IA, below. Peptide sequences in these tables are listed from
20 amino (left) to carboxy (right) terminus. "X" may represent an amino group (-NH₂) and "Z" may represent a carboxyl (-COOH) group. Alternatively, "X" may represent a hydrophobic group, including but not limited to carbobenzyl, dansyl, or T-butoxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC)
25 group; or a covalently attached macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene glycol, carbohydrate or peptide group. Further, "Z" may represent an amido group; a T-butoxycarbonyl group; or a covalently
30 attached macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene glycol, carbohydrate or peptide group. A preferred "X" or "Z" macromolecular group is a peptide group.

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TABLE I
DP178 (SEQ ID:1) CARBOXY TRUNCATIONS

T, 0270

	X-YTS-Z
	X-YTSL-Z
	X-YTSLI-Z
	X-YTSLIH-Z
5	X-YTSLIHS-Z
	X-YTSLIHSL-Z
	X-YTSLIHSLI-Z
	X-YTSLIHSLIE-Z
	X-YTSLIHSLIEE-Z
	X-YTSLIHSLIEES-Z
	X-YTSLIHSLIEESQ-Z
10	X-YTSLIHSLIEESQN-Z
	X-YTSLIHSLIEESQNNQ-Z
	X-YTSLIHSLIEESQNNQQ-Z
	X-YTSLIHSLIEESQNNQQE-Z
	X-YTSLIHSLIEESQNNQQEK-Z
	X-YTSLIHSLIEESQNNQQEKN-Z
	X-YTSLIHSLIEESQNNQQEKNE-Z
	X-YTSLIHSLIEESQNNQQEKNEQ-Z
15	X-YTSLIHSLIEESQNNQQEKNEQE-Z
	X-YTSLIHSLIEESQNNQQEKNEQEL-Z
	X-YTSLIHSLIEESQNNQQEKNEQELL-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLE-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLEL-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLELD-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLELDK-Z
20	X-YTSLIHSLIEESQNNQQEKNEQELLELDKW-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLELDKWA-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLELDKWAS-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLELDKWASL-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLELDKWASLW-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLELDKWASLWN-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLELDKWASLWNW-Z
	X-YTSLIHSLIEESQNNQQEKNEQELLELDKWASLWNWF-Z

25
p The one letter amino acid code is used.

p Additionally,

30 "X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (Fmoc) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

p
35 "Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE IA
DP178 (SEQ ID:1) AMINO TRUNCATIONS

	X-NWF-Z
	X-WNWF-Z
	X-LWNWF-Z
	X-SLWNWF-Z
5	X-ASLWNWF-Z
	X-WASLWNWF-Z
	X-KWASLWNWF-Z
	X-DKWASLWNWF-Z
	X-LDKWASLWNWF-Z
	X-ELDKWASLWNWF-Z
	X-LLELDKWASLWNWF-Z
10	X-ELLELDKWASLWNWF-Z
	X-QELLELDKWASLWNWF-Z
	X-EQELLELDKWASLWNWF-Z
	X-NEQELLELDKWASLWNWF-Z
	X-KNEQELLELDKWASLWNWF-Z
	X-EKNEQELLELDKWASLWNWF-Z
	X-QEKNEQELLELDKWASLWNWF-Z
15	X-QQEKNEQELLELDKWASLWNWF-Z
	X-NQQEKNEQELLELDKWASLWNWF-Z
	X-QNQQEKNEQELLELDKWASLWNWF-Z
	X-SQNQQEKNEQELLELDKWASLWNWF-Z
	X-ESQNQQEKNEQELLELDKWASLWNWF-Z
	X-EESQNQQEKNEQELLELDKWASLWNWF-Z
	X-IEESQNQQEKNEQELLELDKWASLWNWF-Z
20	X-LIEESQNQQEKNEQELLELDKWASLWNWF-Z
	X-SLIEESQNQQEKNEQELLELDKWASLWNWF-Z
	X-HSLIEESQNQQEKNEQELLELDKWASLWNWF-Z
	X-IHSLIEESQNQQEKNEQELLELDKWASLWNWF-Z
	X-SLIHSLIEESQNQQEKNEQELLELDKWASLWNWF-Z
	X-TSLIHSLIEESQNQQEKNEQELLELDKWASLWNWF-Z
	X-YTSLIHSLIEESQNQQEKNEQELLELDKWASLWNWF-Z

25

P

The one letter amino acid code is used.

P

Additionally,

30

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

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"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

The peptides of the invention also include DP178-like peptides. "DP178-like", as used herein, refers, first, to DP178 and DP178 truncations which contain one or more amino acid substitutions, insertions and/or deletions. Second, "DP-178-like" refers to peptide sequences identified or recognized by the ALLMOTI5, 107x178x4 and PLZIP search motifs described herein, having structural and/or amino acid motif similarity to DP178. The DP178-like peptides of the invention may exhibit antifusogenic or antiviral activity, or may exhibit the ability to modulate intracellular processes involving coiled-coil peptides. Further, such DP178-like peptides may possess additional advantageous features, such as, for example, increased bioavailability, and/or stability, or reduced host immune recognition.

HIV-1 and HIV-2 enveloped proteins are structurally distinct, but there exists a striking amino acid conservation within the DP178-corresponding regions of HIV-1 and HIV-2. The amino acid conservation is of a periodic nature, suggesting some conservation of structure and/or function. Therefore, one possible class of amino acid substitutions would include those amino acid changes which are predicted to stabilize the structure of the DP178 peptides of the invention. Utilizing the DP178 and DP178 analog sequences described herein, the skilled artisan can readily compile DP178 consensus sequences and ascertain from these, conserved amino acid residues which would represent preferred amino acid substitutions.

The amino acid substitutions may be of a conserved or non-conserved nature. Conserved amino acid substitutions consist of replacing one or more amino acids of the DP178 (SEQ ID:1) peptide sequence with amino acids of similar charge, size, and/or

hydrophobicity characteristics, such as, for example, a glutamic acid (E) to aspartic acid (D) amino acid substitution. Non-conserved substitutions consist of replacing one or more amino acids of the DP178 (SEQ ID:1) peptide sequence with amino acids possessing
5 dissimilar charge, size, and/or hydrophobicity characteristics, such as, for example, a glutamic acid (E) to valine (V) substitution.

Amino acid insertions may consist of single amino acid residues or stretches of residues. The
10 insertions may be made at the carboxy or amino terminal end of the DP178 or DP178 truncated peptides, as well as at a position internal to the peptide. Such insertions will generally range from 2 to 15 amino acids in length. It is contemplated that
15 insertions made at either the carboxy or amino terminus of the peptide of interest may be of a broader size range, with about 2 to about 50 amino acids being preferred. One or more such insertions may be introduced into DP178 (SEQ.ID:1) or DP178
20 truncations, as long as such insertions result in peptides which may still be recognized by the 107x178x4, ALLMOTI5 or PLZIP search motifs described herein, or may, alternatively, exhibit antifusogenic or antiviral activity, or exhibit the ability to
25 modulate intracellular processes involving coiled-coil peptide structures.

Preferred amino or carboxy terminal insertions are peptides ranging from about 2 to about 50 amino acid residues in length, corresponding to gp41 protein
30 regions either amino to or carboxy to the actual DP178 gp41 amino acid sequence, respectively. Thus, a preferred amino terminal or carboxy terminal amino acid insertion would contain gp41 amino acid sequences found immediately amino to or carboxy to the DP178
35 region of the gp41 protein.

Deletions of DP178 (SEQ ID:1) or DP178 truncations are also within the scope of the invention. Such deletions consist of the removal of one or more amino acids from the DP178 or DP178-like peptide sequence, with the lower limit length of the resulting peptide sequence being 4 to 6 amino acids. Such deletions may involve a single contiguous or greater than one discrete portion of the peptide sequences. One or more such deletions may be introduced into DP178 (SEQ.ID:1) or DP178 truncations, as long as such deletions result in peptides which may still be recognized by the 107x178x4, ALLMOTI5 or PLZIP search motifs described herein, or may, alternatively, exhibit antifusogenic or antiviral activity, or exhibit the ability to modulate intracellular processes involving coiled-coil peptide structures.

DP178 analogs are further described, below, in Section 5.3.

20 *CL vlc* 5.2. DP107 AND DP107-LIKE PEPTIDES

Further, the peptides of the invention include peptides having amino acid sequences corresponding to DP107 analogs. DP107 is a 38 amino acid peptide which exhibits potent antiviral activity, and corresponds to residues 558 to 595 of HIV-1_{LAI} transmembrane (TM) gp41 protein, as shown here: *PS*

ti NH₂-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYLKDQ-COOH *PS*
~~(SEQ ID:25)~~

30

P In addition to the full-length DP107 ~~(SEQ ID:25)~~ 38-mer, the peptides of the invention may include truncations of the DP107 ~~(SEQ ID:25)~~ peptide which exhibit antifusogenic activity, antiviral activity and/or the ability to modulate intracellular processes

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involving coiled-coil peptide structures. Truncations of DP107 (~~SEQ ID:25~~) peptides may comprise peptides of between 3 and 38 amino acid residues (i.e., peptides ranging in size from a tripeptide to a 38-mer polypeptide), as shown in Tables II and IIA, below.

5 Peptide sequences in these tables are listed from amino (left) to carboxy (right) terminus. "X" may represent an amino group ($-NH_2$) and "Z" may represent a carboxyl ($-COOH$) group. Alternatively, "X" may represent a hydrophobic group, including but not

10 limited to carbobenzyl, dansyl, or T-butoxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (Fmoc) group; or a covalently attached macromolecular group, including but not limited to a lipid-fatty acid

15 conjugate, polyethylene glycol, carbohydrate or peptide group. Further, "Z" may represent an amido group; a T-butoxycarbonyl group; or a covalently attached macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene

20 glycol, carbohydrate or peptide group. A preferred "X" or "Z" macromolecular group is a peptide group.

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TABLE II
DP107 - (SEQ ID: 25) CARBOXY TRUNCATIONS

T0330

	X-NNL-Z
	X-NNLL-Z
	X-NNLLR-Z
5	X-NNLLRA-Z
	X-NNLLRAI-Z
	X-NNLLRAIE-Z
	X-NNLLRAIEA-Z
	X-NNLLRAIEAQ-Z
	X-NNLLRAIEAQQ-Z
	X-NNLLRAIEAQQH-Z
10	X-NNLLRAIEAQQHL-Z
	X-NNLLRAIEAQQHLL-Z
	X-NNLLRAIEAQQHLLQ-Z
	X-NNLLRAIEAQQHLLQL-Z
	X-NNLLRAIEAQQHLLQLT-Z
	X-NNLLRAIEAQQHLLQLTV-Z
	X-NNLLRAIEAQQHLLQLTVW-Z
	X-NNLLRAIEAQQHLLQLTVWQ-Z
15	X-NNLLRAIEAQQHLLQLTVWQI-Z
	X-NNLLRAIEAQQHLLQLTVWQIK-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQ-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQL-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQ-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQA-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQAR-Z
20	X-NNLLRAIEAQQHLLQLTVWQIKQLQARI-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQARIL-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQARILA-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAV-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVE-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERY-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYL-Z
25	X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYLK-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYLKD-Z
	X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYLKDQ-Z

P The one letter amino acid code is used.

P Additionally,

30 "X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (Fmoc) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

P³⁵ "Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE IIA
DP178-(SEQ ID:25)-AMINO TRUNCATIONS

	X-KDQ-	Z
	X-LKDQ-	Z
	X-YLKDQ-	Z
5	X-RYLKDQ-	Z
	X-ERYLKDQ-	Z
	X-VERYLKDQ-	Z
	X-AVERYLKDQ-	Z
	X-LAVERYLKDQ-	Z
	X-ILAVERYLKDQ-	Z
	X-RILAVERYLKDQ-	Z
10	X-ARILAVERYLKDQ-	Z
	X-QARILAVERYLKDQ-	Z
	X-LQARILAVERYLKDQ-	Z
	X-QLQARILAVERYLKDQ-	Z
	X-KQLQARILAVERYLKDQ-	Z
	X-IKQLQARILAVERYLKDQ-	Z
	X-QIKQLQARILAVERYLKDQ-	Z
15	X-WQIKQLQARILAVERYLKDQ-	Z
	X-VWQIKQLQARILAVERYLKDQ-	Z
	X-TVWQIKQLQARILAVERYLKDQ-	Z
	X-LTVWQIKQLQARILAVERYLKDQ-	Z
	X-QLTVWQIKQLQARILAVERYLKDQ-	Z
	X-LQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-LLQLTVWQIKQLQARILAVERYLKDQ-	Z
20	X-HLLQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-QHLLQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-QQHLLQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-AQQHLLQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-EAQHLLQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-IEAQHLLQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-AIEAQHLLQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-RAIEAQHLLQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-LRAIEAQHLLQLTVWQIKQLQARILAVERYLKDQ-	Z
25	X-LLRAIEAQHLLQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-NLLRAIEAQHLLQLTVWQIKQLQARILAVERYLKDQ-	Z
	X-NNLLRAIEAQHLLQLTVWQIKQLQARILAVERYLKDQ-	Z

p The one letter amino acid code is used.

p Additionally,

30 "X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

35 p "Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

T,0340

The peptides of the invention also include DP107-like peptides. "DP107-like", as used herein, refers, first, to DP107 and DP107 truncations which contain one or more amino acid substitutions, insertions and/or deletions. Second, "DP-107-like" refers to peptide sequences identified or recognized by the ALLMOTI5, 107x178x4 and PLZIP search motifs described herein, having structural and/or amino acid motif similarity to DP107. The DP107-like peptides of the invention may exhibit antifusogenic or antiviral activity, or may exhibit the ability to modulate intracellular processes involving coiled-coil peptides. Further, such DP107-like peptides may possess additional advantageous features, such as, for example, increased bioavailability, and/or stability, or reduced host immune recognition.

HIV-1 and HIV-2 enveloped proteins are structurally distinct, but there exists a striking amino acid conservation within the DP107-corresponding regions of HIV-1 and HIV-2. The amino acid conservation is of a periodic nature, suggesting some conservation of structure and/or function. Therefore, one possible class of amino acid substitutions would include those amino acid changes which are predicted to stabilize the structure of the DP107 peptides of the invention. Utilizing the DP107 and DP107 analog sequences described herein, the skilled artisan can readily compile DP107 consensus sequences and ascertain from these, conserved amino acid residues which would represent preferred amino acid substitutions.

The amino acid substitutions may be of a conserved or non-conserved nature. Conserved amino acid substitutions consist of replacing one or more amino acids of the DP107 (~~SEQ ID:25~~) peptide sequence with amino acids of similar charge, size, and/or

hydrophobicity characteristics, such as, for example, a glutamic acid (E) to aspartic acid (D) amino acid substitution. Non-conserved substitutions consist of replacing one or more amino acids of the DP107 (SEQ ID:25) peptide sequence with amino acids possessing
5 dissimilar charge, size, and/or hydrophobicity characteristics, such as, for example, a glutamic acid (E) to valine (V) substitution.

Amino acid insertions may consist of single amino acid residues or stretches of residues. The
10 insertions may be made at the carboxy or amino terminal end of the DP107 or DP107 truncated peptides, as well as at a position internal to the peptide. Such insertions will generally range from 2 to 15 amino acids in length. It is contemplated that
15 insertions made at either the carboxy or amino terminus of the peptide of interest may be of a broader size range, with about 2 to about 50 amino acids being preferred. One or more such insertions may be introduced into DP107 (~~SEQ ID:25~~) or DP107
20 truncations, as long as such insertions result in peptides which may still be recognized by the 107x178x4, ALLMOTI5 or PLZIP search motifs described herein, or may, alternatively, exhibit antifusogenic or antiviral activity, or exhibit the ability to
25 modulate intracellular processes involving coiled-coil peptide structures.

Preferred amino or carboxy terminal insertions are peptides ranging from about 2 to about 50 amino acid residues in length, corresponding to gp41 protein
30 regions either amino to or carboxy to the actual DP107 gp41 amino acid sequence, respectively. Thus, a preferred amino terminal or carboxy terminal amino acid insertion would contain gp41 amino acid sequences found immediately amino to or carboxy to the DP107
35 region of the gp41 protein.

Deletions of DP107 ~~(SEQ ID:25)~~ or DP178 truncations are also within the scope of the invention. Such deletions consist of the removal of one or more amino acids from the DP107 or DP107-like peptide sequence, with the lower limit length of the resulting peptide sequence being 4 to 6 amino acids. Such deletions may involve a single contiguous or greater than one discrete portion of the peptide sequences. One or more such deletions may be introduced into DP107 ~~(SEQ ID:25)~~ or DP107 truncations, as long as such deletions result in peptides which may still be recognized by the 107x178x4, ALLMOTI5 or PLZIP search motifs described herein, or may, alternatively, exhibit antifusogenic or antiviral activity, or exhibit the ability to modulate intracellular processes involving coiled-coil peptide structures.

DP107 and DP107 truncations are more fully described in Applicants' co-pending U.S. Patent Application Ser. No. 08/374,666, filed January 27, 1995, and which is incorporated herein by reference in its entirety. DP107 analogs are further described, below, in Section 5.3.

CLV/L 5.3. DP107 and DP178 ANALOGS
p Peptides corresponding to analogs of the DP178, DP178 truncations, DP107 and DP107 truncation sequences of the invention, described, above, in Sections 5.1 and 5.2 may be found in other viruses, including, for example, non-HIV-1_{LAI} enveloped viruses, non-enveloped viruses and other non-viral organisms.

p The term "analog", as used herein, refers to a peptide which is recognized or identified via the 107x178x4, ALLMOTI5 and/or PLZIP search strategies discussed below. Further, such peptides may exhibit antifusogenic capability, antiviral activity, or the

ability to modulate intracellular processes involving coiled-coil structures.

Such DP178 and DP107 analogs may, for example, correspond to peptide sequences present in TM proteins of enveloped viruses and may, additionally correspond
5 to peptide sequences present in non enveloped and non-viral organisms. Such peptides may exhibit antifusogenic activity, antiviral activity, most particularly antiviral activity which is specific to the virus in which their native sequences are found,
10 or may exhibit an ability to modulate intracellular processes involving coiled-coil peptide structures.

DP178 analogs are peptides whose amino acid sequences are comprised of the amino acid sequences of peptide regions of, for example, other (i.e., other
15 than HIV-1_{LAI}) viruses that correspond to the gp41 peptide region from which DP178 (SEQ ID:1) was derived. Such viruses may include, but are not limited to, other HIV-1 isolates and HIV-2 isolates. DP178 analogs derived from the corresponding gp41
20 peptide region of other (i.e., non HIV-1_{LAI}) HIV-1 isolates may include, for example, peptide sequences as shown below. PS.

ti' 25 NH₂-YTNTIYTLLEESQNQQEKNEQEELLELDKWASLWNWF-COOH (DP-185; SEQ ID:3); PS

ti' NH₂-YTGIIYNLLEESQNQQEKNEQEELLELDKWANLWNWF-COOH (SEQ ID:4); PS.

ti' 30 NH₂-YTSLIYSLLEKSQIQQEKNEQEELLELDKWASLWNWF-COOH (SEQ ID:5). PS.

PS SEQ ID:3 (DP-185), SEQ ID:4, and SEQ ID:5 are derived from HIV-1_{SF2}, HIV-1_{RF}, and HIV-1_{MN} isolates, respectively. Underlined amino acid residues refer to those residues that differ from the corresponding
35 position in the DP178 (SEQ ID:1) peptide. One such

DP178 analog, DP-185 (SEQ ID:3), is described in the Example presented in Section 6, below, where it is demonstrated that DP-185 (SEQ ID:3) exhibits antiviral activity. The DP178 analogs of the invention may also include truncations, as described above. Further, the
5 analogs of the invention modifications such those described for DP178 analogs in Section 5.1., above. It is preferred that the DP178 analogs of the invention represent peptides whose amino acid sequences correspond to the DP178 region of the gp41
10 protein, it is also contemplated that the peptides of the invention may, additionally, include amino sequences, ranging from about 2 to about 50 amino acid residues in length, corresponding to gp41 protein regions either amino to or carboxy to the actual DP178
15 amino acid sequence.

Striking similarities, as shown in FIG. 1, exist within the regions of HIV-1 and HIV-2 isolates which correspond to the DP178 sequence. A DP178 analog derived from the HIV-2_{NIH} isolate has the 36 amino acid
20 sequence (reading from amino to carboxy terminus): PS.

ti NH₂-LEANISQSLEQAQIQQEKNNMYELQKLNSWDVFTNWL-COOH (SEQ ID:7) PS -

PS 25 Table III and Table IV show some possible truncations of the HIV-2_{NIH} DP178 analog, which may comprise peptides of between 3 and 36 amino acid residues (i.e., peptides ranging in size from a tripeptide to a 36-mer polypeptide). Peptide sequences in these
30 tables are listed from amino (left) to carboxy (right) terminus. "X" may represent an amino group (-NH₂) and "Z" may represent a carboxyl (-COOH) group. Alternatively, "X" may represent a hydrophobic group, including but not limited to carbobenzyl, dansyl, or T-butoxycarbonyl; an acetyl group; a 9-
35 fluorenylmethoxy-carbonyl (Fmoc) group; or a

covalently attached macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene glycol, carbohydrate or peptide group.

Further, "Z" may represent an amido group; a T-butoxycarbonyl group; or a covalently attached
5 macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene glycol, carbohydrate or peptide group. A preferred "X" or "Z" macromolecular group is a peptide group.

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TABLE III

HIV-2_{NIH2} DP178 analog carboxy truncations.

T,0410

5 X-LEA-Z
X-LEAN-Z
X-LEANI-Z
X-LEANIS-Z
X-LEANISQ-Z
X-LEANISQS-Z
X-LEANISQSL-Z
X-LEANISQSLE-Z
X-LEANISQSLEQ-Z
X-LEANISQSLEQA-Z
X-LEANISQSLEQAQ-Z
10 X-LEANISQSLEQAQI-Z
X-LEANISQSLEQAQIQ-Z
X-LEANISQSLEQAQIQQ-Z
X-LEANISQSLEQAQIQQE-Z
X-LEANISQSLEQAQIQQEK-Z
X-LEANISQSLEQAQIQQEKN-Z
X-LEANISQSLEQAQIQQEKNM-Z
X-LEANISQSLEQAQIQQEKNMY-Z
15 X-LEANISQSLEQAQIQQEKNMYE-Z
X-LEANISQSLEQAQIQQEKNMYEL-Z
X-LEANISQSLEQAQIQQEKNMYELQ-Z
X-LEANISQSLEQAQIQQEKNMYELQK-Z
X-LEANISQSLEQAQIQQEKNMYELQKL-Z
X-LEANISQSLEQAQIQQEKNMYELQKLN-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNS-Z
20 X-LEANISQSLEQAQIQQEKNMYELQKLNSW-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWD-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDV-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVF-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFT-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFTN-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFTNW-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z

25 P The one letter amino acid code is used.

P Additionally,

30 "X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxy, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (Fmoc) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

P 35 "Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE IV

HIV-2_{NH2} DP178 analog amino truncations.

T,0420

	X-NWL-Z
	X-TNWL-Z
	X-FTNWL-Z
	X-VFTNWL-Z
5	X-DVFTNWL-Z
	X-WDVFTNWL-Z
	X-SWDVFTNWL-Z
	X-NSWDVFTNWL-Z
	X-LNSWDVFTNWL-Z
	X-KLNSWDVFTNWL-Z
	X-QKLNSWDVFTNWL-Z
10	X-LQKLNSWDVFTNWL-Z
	X-ELQKLNSWDVFTNWL-Z
	X-YELQKLNSWDVFTNWL-Z
	X-MYELQKLNSWDVFTNWL-Z
	X-NMYELQKLNSWDVFTNWL-Z
	X-KNMYELQKLNSWDVFTNWL-Z
	X-EKNMYELQKLNSWDVFTNWL-Z
15	X-QEKNMYELQKLNSWDVFTNWL-Z
	X-QQEKNMYELQKLNSWDVFTNWL-Z
	X-IQQEKNMYELQKLNSWDVFTNWL-Z
	X-QIQQEKNMYELQKLNSWDVFTNWL-Z
	X-AQIQQEKNMYELQKLNSWDVFTNWL-Z
	X-QAQIQQEKNMYELQKLNSWDVFTNWL-Z
	X-EQAQIQQEKNMYELQKLNSWDVFTNWL-Z
	X-LEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
20	X-SLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
	X-QSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
	X-ISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
	X-NISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
	X-ANISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
	X-EANISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
	X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z

25

P

The one letter amino acid code is used.

P

Additionally,

30

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (Fmoc) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

P

35

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

DP178 and DP107 analogs are recognized or identified, for example, by utilizing one or more of the 107x178x4, ALLMOTI5 or PLZIP computer-assisted search strategies described and demonstrated, below, in the Examples presented in Sections 9 through 16 and 19 through 25. The search strategy identifies additional peptide regions which are predicted to have structural and/or amino acid sequence features similar to those of DP107 and/or DP178.

The search strategies are described fully, below, in the Example presented in Section 9. While this search strategy is based, in part, on a primary amino acid motif deduced from DP107 and DP178, it is not based solely on searching for primary amino acid sequence homologies, as such protein sequence homologies exist within, but not between major groups of viruses. For example, primary amino acid sequence homology is high within the TM protein of different strains of HIV-1 or within the TM protein of different isolates of simian immunodeficiency virus (SIV). Primary amino acid sequence homology between HIV-1 and SIV, however, is low enough so as not to be useful. It is not possible, therefore, to find peptide regions similar to DP107 or DP178 within other viruses, or within non-viral organisms, whether structurally, or otherwise, based on primary sequence homology, alone.

Further, while it would be potentially useful to identify primary sequence arrangements of amino acids based on, for example, the physical chemical characteristics of different classes of amino acids rather than based on the specific amino acids themselves, such search strategies have, until now, proven inadequate. For example, a computer algorithm designed by Lupas et al. to identify coiled-coil propensities of regions within proteins (Lupas, A., et al., 1991 Science 252:1162-1164) is inadequate for

identifying protein regions analogous to DP107 or DP178.

Specifically, analysis of HIV-1 gp160 (containing both gp120 and gp41) using the Lupas algorithm does not identify the coiled-coil region within DP107. It
5 does, however, identify a region within DP178 beginning eight amino acids N-terminal to the start of DP178 and ending eight amino acids from the C-terminus. The DP107 peptide has been shown
10 experimentally to form a stable coiled coil. A search based on the Lupas search algorithm, therefore, would not have identified the DP107 coiled-coil region. Conversely, the Lupas algorithm identified the DP178 region as a potential coiled-coil motif. However, the
15 peptide derived from the DP178 region failed to form a coiled coil in solution.

A possible explanation for the inability of the Lupas search algorithm to accurately identify coiled-coil sequences within the HIV-1 TM, is that the Lupas algorithm is based on the structure of coiled coils
20 from proteins that are not structurally or functionally similar to the TM proteins of viruses, antiviral peptides (e.g. DP107 and DP178) of which are an object of this invention.

The computer search strategy of the invention, as
25 demonstrated in the Examples presented below, in Sections 9 through 16 and 19 through 25, successfully identifies regions of proteins similar to DP107 or DP178. This search strategy was designed to be used
30 with a commercially-available sequence database package, preferably PC/Gene.

A series of search motifs, the 107x178x4, ALLMOTI5 and PLZIP motifs, were designed and engineered to range in stringency from strict to
35 broad, as discussed in this Section and in Section 9, with 107x178x4 being preferred. The sequences

identified via such search motifs, such as those listed in Tables V-XIV, below, potentially exhibit antifusogenic, such as antiviral, activity, may additionally be useful in the identification of antifusogenic, such as antiviral, compounds, and are
5 intended to be within the scope of the invention.

Coiled-coiled sequences are thought to consist of heptad amino acid repeats. For ease of description, the amino acid positions within the heptad repeats are sometimes referred to as A through G, with the first
10 position being A, the second B, etc. The motifs used to identify DP107-like and DP178-like sequences herein are designed to specifically search for and identify such heptad repeats. In the descriptions of each of the motifs described, below, amino acids enclosed by
15 brackets, i.e., [], designate the only amino acid residues that are acceptable at the given position, while amino acids enclosed by braces, i.e., {}, designate the only amino acids which are unacceptable at the given heptad position. When a set of bracketed
20 or braced amino acids is followed by a number in parentheses i.e., (), it refers to the number of subsequent amino acid positions for which the designated set of amino acids hold, e.g, a (2) means "for the next two heptad amino acid positions".

25 The ALLMOTI5 is written as follows: \overline{PS} .

\overline{ti} {CDGHP}-{CFP}(2)-{CDGHP}-{CFP}(3)- \overline{PS}
{CDGHP}-{CFP}(2)-{CDGHP}-{CFP}(3)- \overline{PS}
{CDGHP}-{CFP}(2)-{CDGHP}-{CFP}(3)- \overline{PS}
{CDGHP}-{CFP}(2)-{CDGHP}-{CFP}(3)- \overline{PS}
{CDGHP}-{CFP}(2)-{CDGHP}-{CFP}(3)- \overline{PS} .

30 \overline{P} Translating this motif, it would read: "at the first (A) position of the heptad, any amino acid residue except C, D, G, H, or P is acceptable, at the next two (B,C) amino acid positions, any amino acid residue except C, F, or P is acceptable, at the fourth
35 heptad position (D), any amino acid residue except C,

D, G, H, or P is acceptable, at the next three (E, F, G) amino acid positions, any amino acid residue except C, F, or P is acceptable. This motif is designed to search for five consecutive heptad repeats (thus the repeat of the first line five times), meaning that it searches for 35-mer sized peptides. It may also be designed to search for 28-mers, by only repeating the initial motif four times. With respect to the ALLMOTI5 motif, a 35-mer search is preferred. Those viral (non-bacteriophage) sequences identified via such an ALLMOTI5 motif are listed in Table V, below, at the end of this Section. The viral sequences listed in Table V potentially exhibit antiviral activity, may be useful in the the identification of antiviral compounds, and are intended to be within the scope of the invention. In those instances wherein a single gene exhibits greater than one sequence recognized by the ALLMOTI5 search motif, the amino acid residue numbers of these sequences are listed under "Area 2", Area 3", etc. This convention is used for each of the Tables listed, below, at the end of this Section.

The 107x178x4 motif is written as follows: $\begin{matrix} PS- \\ PS- \end{matrix}$

$\begin{matrix} + & t & i \\ 25 & \left\{ \begin{array}{l} [E F I K L N Q S T V W Y] - \{C F M P\} (2) - [E F I K L N Q S T V W Y] - \{C F M P\} (3) - \\ [E F I K L N Q S T V W Y] - \{C F M P\} (2) - [E F I K L N Q S T V W Y] - \{C F M P\} (3) - \\ [E F I K L N Q S T V W Y] - \{C F M P\} (2) - [E F I K L N Q S T V W Y] - \{C F M P\} (3) - \\ [E F I K L N Q S T V W Y] - \{C F M P\} (2) - [E F I K L N Q S T V W Y] - \{C F M P\} (3) - \end{array} \right. \end{matrix}$

Translating this motif, it would read: "at the first (A) position of the heptad, only amino acid residue E, F, I, K, L, N, Q, S, T, V, W, or Y is acceptable, at the next two (B,C) amino acid positions, any amino acid residue except C, F, M or P is acceptable, at the fourth position (D), only amino acid residue E, F, I, K, L, N, Q, S, T, V, W, or Y is acceptable, at the next three (E, F, G) amino acid positions, any amino acid residue except C, F, M or P is acceptable. This motif is designed to search for

four consecutive heptad repeats (thus the repeat of the first line four times), meaning that it searches for 28-mer sized peptides. It may also be designed to search for 35-mers, by repeating the initial motif five times. With respect to the 107x178x4 motif, a
5 28-mer search is preferred.

Those viral (non-bacteriophage) sequences identified via such a 107x178x4 motif are listed in Table VI, below, at the end of this Section, with those viral (non-bacteriophage) sequences listed in
10 Table VII, below at the end of this Section, being preferred.

The 107x178x4 search motif was also utilized to identify non-viral procaryotic protein sequences, as listed in Table VIII, below, at the end of this
15 Section. Further, this search motif was used to reveal a number of human proteins. The results of this human protein 107x178x4 search is listed in Table IX, below, at the end of this Section. The sequences listed in Tables VIII and IX, therefore, reveal
20 peptides which may be useful as antifusogenic compounds or in the identification of antifusogenic compounds, and are intended to be within the scope of the invention.

The PLZIP series of motifs are as listed in FIG.
25 19. These motifs are designed to identify leucine zipper coiled-coil like heptads wherein at least one proline residue is present at some predefined distance N-terminal to the repeat. These PLZIP motifs find regions of proteins with similarities to HIV-1 DP178
30 generally located just N-terminal to the transmembrane anchor. These motifs may be translated according to the same convention described above. Each line depicted in FIG. 19 represents a single, complete search motif. "X" in these motifs refers to any amino
35 acid residue. In instances wherein a motif contains

two numbers within parentheses, this refers to a variable number of amino acid residues. For example, X (1,12) is translated to "the next one to twelve amino acid residues, inclusive, may be any amino acid".

5 Tables X through XIV, below, at the end of this Section, list sequences identified via searches conducted with such PLZIP motifs. Specifically, Table X lists viral sequences identified via PCTLZIP, P1CTLZIP and P2CTLZIP search motifs, Table XI lists
10 viral sequences identified via P3CTLZIP, P4CTLZIP, P5CTLZIP and P6CTLZIP search motifs, Table XII lists viral sequences identified via P7CTLZIP, P8CTLZIP and P9CTLZIP search motifs, Table XIII lists viral sequences identified via P12LZIPC searches and Table
15 XIV lists viral sequences identified via P23TLZIPC search motifs. The viral sequences listed in these tables represent peptides which potentially exhibit antiviral activity, may be useful in the identification of antiviral compounds, and are
20 intended to be within the scope of the invention.

 The Examples presented in Sections 17, 18, 26 and 27 below, demonstrate that viral sequences identified via the motif searches described herein identify substantial antiviral characteristics. Specifically,
25 the Example presented in Section 17 describes peptides with anti-respiratory syncytial virus activity, the Example presented in Section 18 describes peptides with anti-parainfluenza virus activity, the Example presented in Section 26 describes peptides with anti-
30 measles virus activity and the Example presented in Section 27 describes peptides with anti-simian immunodeficiency virus activity.

 The DP107 and DP178 analogs may, further, contain any of the additional groups described for DP178,
35 above, in Section 5.1. For example, these peptides

may include any of the additional amino-terminal groups as described above for "X" groups, and may also include any of the carboxy-terminal groups as described, above, for "Z" groups.

5 Additionally, truncations of the identified DP107 and DP178 peptides are among the peptides of the invention. Further, such DP107 and DP178 analogs and DP107/DP178 analog truncations may exhibit one or more amino acid substitutions, insertion, and/or deletions. The DP178 analog amino acid substitutions, insertions
10 and deletions, are as described, above, for DP178-like peptides in Section 5.1. The DP-107 analog amino acid substitutions, insertions and deletions are also as described, above, for DP107-like peptides in Section
15 5.2.

15 Tables XV through XXII, below, present representative examples of such DP107/DP178 truncations. Specifically, Table XV presents Respiratory Syncytial Virus F1 region DP107 analog carboxy truncations, Table XVI presents Respiratory
20 Syncytial Virus F1 region DP107 analog amino truncations, Table XVII presents Respiratory Syncytial Virus F1 region DP178 analog carboxy truncations, Table XVIII presents Respiratory Syncytial Virus F1 region DP178 analog amino truncations, Table XIX
25 presents Human Parainfluenza Virus 3 F1 region DP178 analog carboxy truncations, Table XX presents Human Parainfluenza Virus 3 F1 region DP178 analog amino truncations, Table XXI presents Human Parainfluenza Virus 3 F1 region DP107 analog carboxy truncations and
30 Table XXII presents Human Parainfluenza Virus 3 F1 region DP107 analog amino truncations. Further, Table XXIII, below, presents DP107/DP178 analogs and analog truncations which exhibit substantial antiviral activity. These antiviral peptides are grouped
35 according to the specific virus which they inhibit,

including respiratory syncytial virus, human
parainfluenza virus 3, simian immunodeficiency virus
and measles virus.

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T,0510

TABLE V

ALLMOTIS SEARCH RESULTS SUMMARY

FOR ALL VIRAL (NON-BACTERIOPHAGE) PROTEINS

PCGENE	ALLNOTES	All Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8
FILE NAME	PROTEIN	VIRUS								
P170K_TRVPS	POTENTIAL 170 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN PSG)	113-151							
P194K_TRVSV	POTENTIAL 194 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN SYN)	144-178	214-248	391-446	644-678	1045-1079	1135-1176	1335-1376	1618-1658
P193KD_HSV8U	55.8 KD PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	228-262							
PAANT_HDVAM	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	3-48	100-144						
PAANT_HDVDI	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE DJRO)	7-48	100-144						
PAANT_HDVIT	DELTA ANTIGEN (ALPHA ANTIGEN)	HEPATITIS DELTA VIRUS (ISOLATE ITALIAN)	3-48	100-144						
PAANT_HDVL1	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE LEBANON-1)	3-48	100-144						
PAANT_HDVM1	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE JAPANESE M-1)	3-48	100-144						
PAANT_HDVN2	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE JAPANESE M-2)	3-48	100-144						
PAANT_HDVNA	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE NAURU)	3-48	100-144						
PAANT_HDVS1	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE JAPANESE S-1)	1-49	100-144						
PAANT_HDVS2	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE JAPANESE S-2)	1-49	100-144						
PAANT_HDVW0	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE WOODCHUCK)	3-48	100-144						
PAT1H_FOWPM	ANTITHROMBIN-III HOMOLOG	FOWLPOX VIRUS (ISOLATE IIP-438)	71-110							
PAT1I_VACCV	94 KD A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	14-57	420-564	570-625					
PAT1I_VARY	81 KD A-TYPE INCLUSION PROTEIN	VARIOLA VIRUS	425-525	551-565	571-628					
PAT2_HSV11	ALPHA TRANS-INDUCING FACTOR	HERPES SIMPLEX VIRUS (TYPE 1)	304-345							
PAT2_HSV1F	ALPHA TRANS-INDUCING FACTOR	HERPES SIMPLEX VIRUS (TYPE 1)	102-139	304-345						
PAT2_HSV2H	ALPHA TRANS-INDUCING FACTOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	101-147	268-331						
PAT2_HSVBP	PUTATIVE A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	79-124	219-263						
PAT2_VACCV	PUTATIVE A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS	79-124							
PAT2_VZVD	ALPHA TRANS-INDUCING FACTOR	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	298-361	395-429						
PAT3_VACCV	PUTATIVE A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS	51-95							
PATIN_HSV23	ALPHA TRANS-INDUCING PROTEIN (VMAW65)	HERPES SIMPLEX VIRUS (TYPE 2)	178-219	324-381						
PATIN_HSV2H	ALPHA TRANS-INDUCING PROTEIN (VMAW65)	HERPES SIMPLEX VIRUS (TYPE 2)	177-222	324-381						
PATIN_HSVBP	ALPHA TRANS-INDUCING PROTEIN	BOVINE HERPESVIRUS TYPE 1	195-256							
PATIN_HSVB	ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 1	241-289							
PATIN_VZVD	ALPHA TRANS-INDUCING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	206-252							
PAT1I_COWPX	A-TYPE INCLUSION PROTEIN	COWPOX VIRUS	14-57	426-526	532-566	572-629	801-989	1106-1150		
PBDL3_EBV	PROTEIN BDLF2	EPSTEIN-BARR VIRUS (STRAIN B95-8)	90-131							
PBR1_EBV	TRANSCRIPTION ACTIVATOR BRLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	150-187							
PCOA1_POVBA	COAT PROTEIN VP1	POLYOMAVIRUS BK	107-141							
PCOA1_POVBK	COAT PROTEIN VP1	POLYOMAVIRUS BK	107-141							
PCOA1_POVHA	COAT PROTEIN VP1	HAMSTER POLYOMAVIRUS	159-195							
PCOA1_SY40	COAT PROTEIN VP1	SIMIAN VIRUS 40	109-143							
PCOA2_BFDV	COAT PROTEIN VP2	BUDGERIGAR FLEDGLING DISEASE VIRUS	141-213							
PCOA2_POVBA	COAT PROTEIN VP2	POLYOMAVIRUS BK (STRAIN A5)	14-64	317-351						
PCOA2_POVBK	COAT PROTEIN VP2	POLYOMAVIRUS BK	14-64	317-351						
PCOA2_POVBO	COAT PROTEIN VP2	BOVINE POLYOMAVIRUS	35-76	153-216						
PCOA2_POVHA	COAT PROTEIN VP2	HAMSTER POLYOMAVIRUS	7-48	174-208						
PCOA2_POVIC	COAT PROTEIN VP2	POLYOMAVIRUS JC	14-64	233-267						
PCOA2_POVLY	COAT PROTEIN VP2	LYMPHOTROPIC POLYOMAVIRUS	14-78	156-206						
PCOA2_POVA3	COAT PROTEIN VP2	MOUSE POLYOMAVIRUS (STRAIN 3)	5-72	137-185						
PCOA2_POVNC	COAT PROTEIN VP2	MOUSE POLYOMAVIRUS	5-72	137-185						
PCOA2_POVNC	COAT PROTEIN VP2	MOUSE POLYOMAVIRUS	5-72	137-185						
PCOA2_POVNC	COAT PROTEIN VP2	MOUSE POLYOMAVIRUS	15-56	177-211						
PCOA2_POVNC	COAT PROTEIN VP2	MOUSE POLYOMAVIRUS	14-62	228-262	318-352					
PCOA2_POVNC	COAT PROTEIN VP2	SIMIAN VIRUS 40	180-214							
PCOA2_POVNC	COAT PROTEIN	ABLUTIN MOSAIC VIRUS (ISOLATE WEST INDIA)	154-188							
PCOA2_POVNC	COAT PROTEIN	APPLE CHLOROTIC LEAF SPOT VIRUS	243-284							
PCOA2_POVNC	COAT PROTEIN VP1	AEDS DENSONUCLEOSIS VIRUS	36-70	100-134						
PCOA2_POVNC	COAT PROTEIN	ARTICHOKE MOTTLED CRINKLE VIRUS	89-123							
PCOA2_POVNC	COAT PROTEIN	BEAN LEAFROLL VIRUS								

PCGENE	ALLNOTIS	ALL VITRUS (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
FILENAME	PROTEIN	VIRUS								
PDPOL_ADE12	DNA POLYMERASE	HUMAN ADENOVIRUS TYPE 12	665-741							
PDPOL_CBEV2	DNA POLYMERASE	CHORISTONEURA BIEHNIS ENTOMOPHOX VIRUS	23-64	202-240						
PDPOL_CBEV3	DNA POLYMERASE	CHLORELLA VIRUS NY-2A	247-284							
PDPOL_CHV1	DNA POLYMERASE	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	247-284							
PDPOL_FOWPV	DNA POLYMERASE	FOWLPOX VIRUS	17-51	80-114	371-412					
PDPOL_HOMVA	DNA POLYMERASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	753-787	1033-1074						
PDPOL_HPBDB	DNA POLYMERASE	DUCK HEPATITIS B VIRUS	5-39							
PDPOL_HPBDC	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (STRAIN CHINA)	5-39							
PDPOL_HPBOW	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE 53)	5-39	297-338						
PDPOL_HPBOS	DNA POLYMERASE	GROUND SQUIRREL HEPATITIS VIRUS	291-325							
PDPOL_HPBRE	DNA POLYMERASE	HERON HEPATITIS B VIRUS	5-39	224-265	557-595					
PDPOL_HPBVY	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AYW)	201-235							
PDPOL_HPBVZ	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADYW)	201-235							
PDPOL_HSV1	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	511-559							
PDPOL_HSV1A	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN ANGELOTTI)	511-559							
PDPOL_HSV1K	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	511-559							
PDPOL_HSV1S	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN SC16)	511-559							
PDPOL_HSV21	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 186)	512-560							
PDPOL_HSV2B	DNA POLYMERASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	494-528							
PDPOL_HSV2C	DNA POLYMERASE	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS)	31-67	328-366	401-435	706-749	808-838			
PDPOL_HSV2D	DNA POLYMERASE	AUTOGRAFA CALIFORNICA NUCLEAR POLYEDROSIS VIRUS	595-646							
PDPOL_HSV2E	DNA POLYMERASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	627-683	770-818	828-862					
PDPOL_HSV2F	DNA POLYMERASE	VACCINIA VIRUS (STRAIN WR)	627-683	770-818	828-862					
PDPOL_HSV2G	DNA POLYMERASE	VARIOLA VIRUS	626-682	769-817	827-861					
PDPOL_HSV2H	DNA POLYMERASE	VARIOLA-ZOSTER VIRUS (STRAIN DUMAS)	473-533							
PDPOL_HSV2I	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1	285-326							
PDPOL_HSV2J	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 59	290-331							
PDPOL_HSV2K	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 7	290-331							
PDPOL_HSV2L	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8	289-330							
PDPOL_HSV2M	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8 (INFECTIOUS CLONE)	290-331							
PDPOL_HSV2N	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AYW)	201-235							
PDPOL_HSV2O	DNA POLYMERASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	135-169							
PDPOL_HSV2P	DEOXYURIDINE 5'-TRIPHOSPHATE NUCLEOTIDOHY	HERPESVIRUS SAIMIRI (STRAIN 11)	179-223							
PDPOL_HSV2Q	DEOXYURIDINE 5'-TRIPHOSPHATE NUCLEOTIDOHY	HUMAN ADENOVIRUS TYPE 41	107-141							
PE1A_ADEA1	EARLY E1A 27 KD PROTEIN	HUMAN ADENOVIRUS TYPE 40	102-166							
PE1B_ADEA2	E1B PROTEIN, LARGE T-ANTIGEN	HUMAN ADENOVIRUS TYPE 2	103-137							
PE1B_ADEA3	E1B PROTEIN, SMALL T-ANTIGEN	HUMAN ADENOVIRUS TYPE 5	103-137							
PE1B_ADEA4	E1B PROTEIN, SMALL T-ANTIGEN	HUMAN ADENOVIRUS TYPE 12	96-131							
PE1B_ADEA5	E1B PROTEIN, SMALL T-ANTIGEN	HUMAN ADENOVIRUS TYPE 40	100-134							
PE1B_ADEA6	E1B PROTEIN, SMALL T-ANTIGEN	HUMAN ADENOVIRUS TYPE 41	100-134							
PE1B_ADEA7	E1B PROTEIN, SMALL T-ANTIGEN	MOUSE ADENOVIRUS TYPE 1	119-173							
PE1B_ADEA8	EARLY E1B 14 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	2-39							
PE1B_ADEA9	EARLY E1B 13.5 KD PROTEIN	HUMAN ADENOVIRUS TYPE 3	8-49							
PE1B_ADEA10	EARLY E1B 13.5 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	2-39							
PE1B_ADEA11	EARLY E1B 13.5 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	7-48							
PE1B_ADEA12	EARLY E1B 20.3 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 35	70-107							
PE1B_ADEA13	EARLY E1B 20.6 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 35	125-169							
PE1B_ADEA14	PROBABLE EARLY E4 11 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	10-44							
PE1B_ADEA15	PROBABLE EARLY E4 11 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	10-44							
PE1B_ADEA16	EARLY ANTIGEN PROTEIN R	EPSTEIN-BARR VIRUS (STRAIN B95-8)	121-157							
PE1B_ADEA17	EBNA-4 NUCLEAR PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	487-521							
PE1B_ADEA18	EARLY TRANSCRIPTION FACTOR 70 KD SUBUNIT	VARIOLA VIRUS	23-71	107-341						

PCGENE	ALLNOTES	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILENAME	PROTEIN	VIRUS								
PENV1_FRSV	ENV POLYPROTEIN PRECURSOR	FRIEND SPLEEN FOCUS-FORMING VIRUS	341-375							
PENV2_FRSV	ENV POLYPROTEIN PRECURSOR	FRIEND SPLEEN FOCUS-FORMING VIRUS	341-378							
PENV1_AVRE	ENV POLYPROTEIN	A VIAN RETICULOENDOTHELIOSIS VIRUS	420-472							
PENV1_AVISN	ENV POLYPROTEIN	A VIAN SPLEEN NECROSIS VIRUS	426-478							
PENV1_BAEVM	ENV POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN M7)	390-456							
PENV1_BIV06	ENV POLYPROTEIN PRECURSOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	10-44	88-122	221-255	530-610	635-691			
PENV1_BIV27	ENV POLYPROTEIN PRECURSOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	10-44	88-122	139-193	250-284	559-639	664-724		
PENV1_BIVAF	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AMERICAN ISOLATE FLK)	104-379							
PENV1_BIVAV	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	304-379							
PENV1_BIVB2	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AMERICAN ISOLATE VDM)	304-379							
PENV1_BIVB3	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB59)	304-379							
PENV1_BIV1	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	304-379							
PENV1_CAECV	ENV POLYPROTEIN PRECURSOR	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	157-196	615-720	751-785	847-895				
PENV1_CAEGV	ENV POLYPROTEIN PRECURSOR	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN G63)	154-193	611-718	749-783	845-893				
PENV1_EIAV1	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3-1)	39-76	436-525	559-593	668-716				
PENV1_EIAV2	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3-2-2)	39-76	436-525	559-593	658-692				
PENV1_EIAV3	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3-2-3)	39-76	436-525	559-593	658-716				
PENV1_EIAV5	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3-2-5)	39-76	436-525	559-593	659-693				
PENV1_EIAV9	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1369)	39-76	436-525	559-593	658-716				
PENV1_EIAYC	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22)	39-76	436-525	559-593	658-716				
PENV1_EIAYW	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (STRAIN WSU5)	39-76	436-525	559-593	658-716				
PENV1_EIAYV	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYONING)	39-76	436-525	559-593	658-716				
PENV1_FENV1	ENV POLYPROTEIN PRECURSOR	FELINE ENDOGENOUS VIRUS ECE1	501-555	567-604						
PENV1_FIVPE	ENVELOPE POLYPROTEIN PRECURSOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMIA)	610-690	715-736						
PENV1_FIVSD	ENVELOPE POLYPROTEIN PRECURSOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	601-688	713-734						
PENV1_FIVT2	ENVELOPE POLYPROTEIN PRECURSOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE TN12)	600-622	609-689	714-735					
PENV1_FIVC6	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA PROVIRUS (CLONE CFE-6)	497-549	561-595						
PENV1_FIVGL	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN AG15SCOW-1)	478-530	545-576						
PENV1_FIVLB	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN LAMBDA-B1)	498-550	562-596						
PENV1_FIVSA	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN SARMIA)	475-527	539-573						
PENV1_FIVAV	ENV POLYPROTEIN	HUMAN SPUMARETROVIRUS	1-41	154-205	321-355	563-693	866-903			
PENV1_FIVGA	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	498-550	562-596						
PENV1_FIVGB	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN GA)	478-530	545-576						
PENV1_FIVSM	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN SM)	481-524	545-579						
PENV1_FIVST	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN SNYDER-THEILEN)	498-552							
PENV1_GALV	ENV POLYPROTEIN PRECURSOR	GIBBON APE LEUKEMIA VIRUS	523-575	587-621						
PENV1_HTLA	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	321-383							
PENV1_HTLIC	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE)	316-383							
PENV1_HTLIM	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (ISOLATE NT-2)	321-383							
PENV1_HTLV2	ENV POLYPROTEIN PRECURSOR	HUMAN T-CELL LEUKEMIA VIRUS TYPE II	317-377							
PENV1_HV1A2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ARVJ2F2 ISOLATE)	497-593	612-711	766-845					
PENV1_HV1B1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH10 ISOLATE)	505-594	610-712	767-843					
PENV1_HV1B8	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH8 ISOLATE)	500-589	603-707	762-838					
PENV1_HV1B9	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BRIN ISOLATE)	331-365	501-590	609-708	763-831				
PENV1_HV1BR	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BRU ISOLATE)	510-599	615-717	772-841					
PENV1_HV1C4	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (CDC-451 ISOLATE)	342-376	510-606	626-724	779-855				
PENV1_HV1EL	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ELI ISOLATE)	255-296	502-591	607-709	768-839				
PENV1_HV1H2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HXB2 ISOLATE)	505-594	610-712	767-836					
PENV1_HV1H3	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HXB3 ISOLATE)	505-594	610-712	767-843					
PENV1_HV1J3	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HJ ISOLATE)	343-377	517-605	622-723	778-843				
PENV1_HV1JR	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (JRCSF ISOLATE)	329-363	497-586	603-704	759-835				

PCGENE	ALLNOTIS	All Viruses (no bacteriophages)										AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS										AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PENY_HV1K6	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN KB-1-GP12)										88-122	318-372	511-545	555-599	618-677	681-718	772-848	
PENY_HV1M6	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NAL ISOLATE)										259-300	507-596	617-714	770-825				
PENY_HV1M7	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MFA ISOLATE)										503-592	622-710	765-841					
PENY_HV1M8	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (N1 ISOLATE)										316-370	506-595	617-713	774-841				
PENY_HV1N3	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOL)										376-360							
PENY_HV1N4	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)										249-290	495-584	601-702	757-825				
PENY_HV1OY	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYI ISOLATE)										316-370	497-593	610-711	766-842				
PENY_HV1P4	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)										505-594	610-712	767-843					
PENY_HV1R4	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RFHAT ISOLATE)										344-378	507-603	619-721	776-852				
PENY_HV1S1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE)										496-585	602-703	758-830					
PENY_HV1S3	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF33 ISOLATE)										312-366	494-590	607-708	763-837				
PENY_HV1S4	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SC ISOLATE)										311-365	498-594	611-712	767-834				
PENY_HV1W1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WNU1 ISOLATE)										331-365	498-594	611-712	767-836				
PENY_HV1W2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WNU2 ISOLATE)										327-361	489-584	602-703	758-827				
PENY_HV1Z2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2 ISOLATE)										425-296	502-591	610-709	764-831				
PENY_HV1Z3	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2CDC-234 ISOLA)										251-292							
PENY_HV1Z6	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2AIRE 6 ISOLATE)										256-297	504-593	609-711	766-840				
PENY_HV1Z8	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2AIRE 6 ISOLATE)										266-307	512-601	617-675	682-719	774-831			
PENY_HV1Z8	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2AIRE H2321 ISOLA)										522-594	612-671	675-712	777-839				
PENY_HV1Z8	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)										447-481	510-595	617-680					
PENY_HV2B2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAN2)										512-597	619-709						
PENY_HV2CA	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)										439-473	501-586	609-699					
PENY_HV2D1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-2)										488-587	609-699						
PENY_HV2N2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)										511-596	618-708						
PENY_HV2N2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST724.1CH)										442-478	505-590	612-702					
PENY_HV2S2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SRLISY)										526-588	614-700						
PENY_HV2S2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)										442-478	505-590	612-702					
PENY_HV2S2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	MOUSE INTRACISTERNAL A-PARTICLE										367-422	465-527						
PENY_HV2AE	ENV POLYPROTEIN PRECURSOR	SHEEP PULMONARY ADENOMATOSIS VIRUS										403-455	571-605						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS										473-525	537-571						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS (ISOLA)										474-526	538-572						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	AKV MURINE LEUKEMIA VIRUS										503-555	567-601						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	CAS-BR-E MURINE LEUKEMIA VIRUS										498-550	562-596						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE 57)										520-564	576-610						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)										520-564	576-610						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE PVC-211)										520-564	576-610						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	HONGKONG MURINE LEUKEMIA VIRUS										504-551	563-597						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	KIRSTEN MURINE LEUKEMIA VIRUS										40-92	104-138						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	MOLONEY MURINE LEUKEMIA VIRUS										502-554	566-600						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	RADIATION MURINE LEUKEMIA VIRUS										497-549	561-595						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)										497-549	561-595						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)										477-539	536-612						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)										477-539	536-612						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	SIMIAN MASON-PFIZER VIRUS										408-474							
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	FBI MURINE OSTEOSARCOMA VIRUS										43-95	107-141						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	OVINE LENTIVIRUS (STRAIN SA-ONVY)										22-64	185-223	664-746	780-816				
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	RAUSCHER MINK CELL FOCUS-INDUCING VIRUS										484-528	540-574						
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	RAUSCHER SPLEEN FOCUS-FORMING VIRUS										342-376							
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	SIMIAN FOAMY VIRUS (TYPE 1)										1-41	101-140	154-203	321-375	563-651	658-693	866-904	
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	SIMIAN FOAMY VIRUS (TYPE 3 / STRAIN LK3)										5-46	158-209	319-357	560-706	863-901			
PENY_HV2K	ENV POLYPROTEIN PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (AGN155 ISOLATE)										269-310	551-623	643-693					

PGCENE	ALL MOTIS	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILENAME	PROTEIN	VIRUS	556-628	651-699	808-852					
PENV_SIVAG	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (AGN3 ISOLATE)	556-628	651-699	808-852					
PENV_SIVAI	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGN1 CLONE GR)	336-370	336-370	535-607	627-684	792-840			
PENV_SIVAT	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	264-298	349-621	644-692	796-833				
PENV_SIVCB	ENVELOPE POLYPROTEIN GP160 PRECURSOR	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIVCP2)	233-291	330-365	512-584	669-703	803-837			
PENV_SIVMI	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE CB1)	566-634	677-725						
PENV_SIVM2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (SNI142-83 ISOLATE)	114-151	465-506	528-613	635-725	809-864			
PENV_SIVM4	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (SNI251 ISOLATE)	71-109	161-219	245-286					
PENV_SIVM6	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (KAW ISOLATE)	464-505	540-612	618-724					
PENV_SIVS4	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	464-505	540-612	618-724					
PENV_SIVSP	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (F216/SNH4 ISOLATE)	466-509	517-616	618-728	812-853				
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (PB1/BC13 ISOLATE)	470-513	521-620	642-732	811-848				
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	SQUIRREL MONKEY RETROVIRUS (SMRV-41)	400-466							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	SIMIAN RETROVIRUS SRV-1	409-475							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	VISNA LENTIVIRUS (STRAIN 1514)	21-62	184-222	637-740	773-809				
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	VISNA LENTIVIRUS (STRAIN 1514/ CLONE LVI-1K51)	21-62	184-222	643-746	780-816				
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	VISNA LENTIVIRUS (STRAIN 1514/ CLONE LVI-1K52)	21-62	184-222	643-748	782-818				
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	AVIAN ERYTHROBLASTOSIS VIRUS (STRAIN ES4)	106-140							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	FOWLPOX VIRUS (STRAIN FP-1)	190-224	553-587						
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	SHOPE FIBROMA VIRUS (STRAIN KASZA)	37-71	267-340	550-587					
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	23-71	307-341						
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN WR)	23-71	307-341						
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	52-97	174-208						
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	VARIOLA VIRUS	52-97	174-208						
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	80-114							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	89-141							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	PEUDORABIES VIRUS (STRAIN NIA-3)	82-120							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	109-157	342-383						
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 40	182-237							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 41	182-237							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 3	156-194							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 7	176-210							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 40	303-332							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 41	320-366							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	BOVINE ADENOVIRUS TYPE 3	181-215	585-626						
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	BOVINE ADENOVIRUS TYPE 4	131-169							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	AVIAN RETROVIRUS NK24	109-152							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	FBI MURINE OSTEOSARCOMA VIRUS	153-193							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	AVIAN SARCOMA VIRUS (STRAIN CT10)	57-101							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	AVIAN ENDGENOUS VIRUS EV-1	57-94							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	AVIAN ENDGENOUS ROUS-ASSOCIATED VIRUS-0	6-43							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	AVIAN MYELOCYTOMATOSIS VIRUS MC29	57-94							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	AVIAN MYELOCYTOMATOSIS VIRUS HBI	57-94							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	AVIAN SARCOMA VIRUS (STRAIN UR2)	57-94							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	AVIAN SARCOMA VIRUS (STRAIN Y7)	57-94							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	1-41							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22)	61-118							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUNIA)	76-110							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	76-110							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE TN2)	76-110							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS	496-537							
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	HUMAN SPINARETROVIRUS	130-186	391-425	439-480	607-655				
PENV_SIVSRV1	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN MCDONOUGH)	499-534							

PCGENE	ALLMOTIS	PROTEIN	FILENAME	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PHENX_INCM1	HEMAGGLUTININ PRECURSOR	PROTEIN	INFLUENZA C VIRUS (STRAIN CMISSISSIPPI/80)	470-538							
PHENX_INCM2	HEMAGGLUTININ PRECURSOR	PROTEIN	INFLUENZA C VIRUS (STRAIN CNARA/82)	470-538							
PHENX_INCM3	HEMAGGLUTININ PRECURSOR	PROTEIN	INFLUENZA C VIRUS (STRAIN CPIC/BEIJING/10/81)	471-539							
PHENX_INCM4	HEMAGGLUTININ PRECURSOR	PROTEIN	INFLUENZA C VIRUS (STRAIN CPIC/BEIJING/11/81)	471-539							
PHENX_INCM5	HEMAGGLUTININ PRECURSOR	PROTEIN	INFLUENZA C VIRUS (STRAIN CPIC/BEIJING/13/82)	471-539							
PHENX_INCM6	HEMAGGLUTININ PRECURSOR	PROTEIN	INFLUENZA C VIRUS (STRAIN CTAYLOR/12/3447)	471-539							
PHENX_INCM7	HEMAGGLUTININ PRECURSOR	PROTEIN	INFLUENZA C VIRUS (STRAIN CYAMAGATA/10/81)	471-539							
PHENX_INCM8	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	MEASLES VIRUS (STRAIN EDMONSTON)	46-90							
PHENX_INCM9	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	MEASLES VIRUS (STRAIN HALLE)	46-90							
PHENX_INCM10	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	MEASLES VIRUS (STRAIN IP-1-CA)	46-87							
PHENX_INCM11	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	MEASLES VIRUS (STRAIN YAMAGATA-1)	46-87							
PHENX_INCM12	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	MUMPS VIRUS (STRAIN SBL-1)	34-99							
PHENX_INCM13	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	MUMPS VIRUS (STRAIN NIYAHARA VACCINE)	34-99							
PHENX_INCM14	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	MUMPS VIRUS (STRAIN RW)	34-99							
PHENX_INCM15	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	MUMPS VIRUS (STRAIN SBL)	34-99							
PHENX_INCM16	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/32)	8-52	477-539						
PHENX_INCM17	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/45)	1-49							
PHENX_INCM18	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN D26/76)	1-52							
PHENX_INCM19	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN MIYADEN/451)	1-52							
PHENX_INCM20	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN QUEENSLAND/66)	1-52							
PHENX_INCM21	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS G.B.48)	1-49							
PHENX_INCM22	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN ULSTER/67)	1-52							
PHENX_INCM23	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	PHOCINE DISTEMPER VIRUS	39-73							
PHENX_INCM24	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN WASHINGTON/1957)	66-110							
PHENX_INCM25	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 2 VIRUS	247-281							
PHENX_INCM26	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA)	247-281							
PHENX_INCM27	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	BOVINE PARAINFLUENZA 3 VIRUS	38-93							
PHENX_INCM28	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	13-110	394-428						
PHENX_INCM29	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN AUS/124854/74)	20-110	394-428						
PHENX_INCM30	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX/545/80)	13-110	394-428						
PHENX_INCM31	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX/9305/82)	13-110	394-428						
PHENX_INCM32	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX/1267/83)	13-110	394-428						
PHENX_INCM33	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN WASH/641/79)	13-110	394-428						
PHENX_INCM34	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN WASH/1511/73)	13-110	394-428						
PHENX_INCM35	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA)	54-88							
PHENX_INCM36	HEMAGGLUTININ PRECURSOR	PROTEIN	RACCOON POXVIRUS	166-214	236-290						
PHENX_INCM37	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	RINDERPEST VIRUS (STRAIN KABETE O)	46-87							
PHENX_INCM38	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	RINDERPEST VIRUS (STRAIN L)	46-87	191-225						
PHENX_INCM39	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	SENDAI VIRUS (STRAIN Z / HOST MUTANTS)	57-110							
PHENX_INCM40	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	SENDAI VIRUS (STRAIN FUSHIMI)	57-110							
PHENX_INCM41	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	SENDAI VIRUS (STRAIN HARRIS)	57-110							
PHENX_INCM42	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	SENDAI VIRUS (STRAIN HVJ)	57-110							
PHENX_INCM43	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	SENDAI VIRUS (STRAIN Z)	57-110							
PHENX_INCM44	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	SIMIAN VIRUS 41	18-52	387-421						
PHENX_INCM45	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	SIMIAN VIRUS 5 (STRAIN W3)	27-82							
PHENX_INCM46	HEMAGGLUTININ-NEURAMINIDASE	PROTEIN	SIMIAN VIRUS 5 (ISOLATE HUMAN/LN)	27-82							
PHENX_INCM47	HEMAGGLUTININ PRECURSOR	PROTEIN	VARIOLA VIRUS	177-211							
PHENX_ADE01	PERIPEPTONAL HEXON-ASSOCIATED PROTEIN	PROTEIN	HUMAN ADENOVIRUS TYPE 2	90-134							
PHENX_ADE02	PERIPEPTONAL HEXON-ASSOCIATED PROTEIN	PROTEIN	HUMAN ADENOVIRUS TYPE 5	90-134							
PHENX_ADE03	HEXON-ASSOCIATED PROTEIN	PROTEIN	HUMAN ADENOVIRUS TYPE 2	85-134							
PHENX_ADE04	HEXON-ASSOCIATED PROTEIN	PROTEIN	HUMAN ADENOVIRUS TYPE 5	85-134							
PHENX_ADE05	HEXON-ASSOCIATED PROTEIN	PROTEIN	HUMAN ADENOVIRUS TYPE 7, AND HUMAN ADENOVIRUS TYPE 9	93-138							

PCGENE	ALLMOTIS	ALL Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8
FILE NAME	PROTEIN	VIRUS								
PHX9_ADE12	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 12	88-137							AREA.9
PHX9_ADE41	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 41	67-126							
PHX9_ADEC1	HEXON-ASSOCIATED PROTEIN	CANINE ADENOVIRUS TYPE 2	53-103							
PHX9_ADE1T	HEXON-ASSOCIATED PROTEIN	TUPAIA ADENOVIRUS	61-109							
PHX9_ADE02	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 2	341-386	433-467	583-624					
PHX9_ADE03	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 5	330-379							
PHX9_ADE40	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 40	303-352	408-449	553-587					
PHX9_ADE41	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 41	306-355	555-589						
PHX9_ADEB3	HEXON PROTEIN	BOVINE ADENOVIRUS TYPE 3	301-346	385-419	544-578	705-739				
PHRG_COWPX	HOST RANGE PROTEIN	COWPOX VIRUS	320-395	455-489						
P1226_ASF87	LATE PROTEIN 1226R	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	110-151							
PIBMP_CAMV4	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D4)	344	378-419						
PIBMP_CAMV8	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BAR1 1)	379-420							
PIBMP_CAMV9	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CN41841)	3-37	378-419						
PIBMP_CAMV0	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D1H)	3-44	378-419						
PIBMP_CAMV1	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN DDC)	1-37	378-419						
PIBMP_CAMV2	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN S-JAPAN)	3-37	378-419						
PIBMP_CAMV3	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	3-37	378-419						
PIBMP_CAMV4	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN PV147)	3-37	374-419						
PIBMP_CAMV5	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	3-37	378-419						
PIBMP_CAMV6	INCLUSION BODY MATRIX PROTEIN	CARNATION ETCHED RING VIRUS	3-37							
PIBMP_CAMV7	INCLUSION BODY MATRIX PROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DX5)	1-51	372-406						
PIBMP_CAMV8	INCLUSION BODY MATRIX PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	1-48	132-179						
PIBMP_CAMV9	PROBABLE PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	53-98	290-324	498-532					
PIBMP_CAMV0	PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN ANGELOTTI)	331-365							
PIBMP_CAMV1	PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN ANGELOTTI)	331-365							
PIBMP_CAMV2	PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	324-362							
PIBMP_CAMV3	PROBABLE PROCESSING AND TRANSPORT PROTEIN	BOVINE HERPESVIRUS TYPE 2 (STRAIN BMV)	466-500							
PIBMP_CAMV4	PROBABLE PROCESSING AND TRANSPORT PROTEIN	HERPESVIRUS TYPE 1 (ISOLATE HV523A)	341-375							
PIBMP_CAMV5	PROBABLE PROCESSING AND TRANSPORT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	58-99	361-395						
PIBMP_CAMV6	PROBABLE PROCESSING AND TRANSPORT PROTEIN	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	60-112	290-340	647-691					
PIBMP_CAMV7	PROBABLE PROCESSING AND TRANSPORT PROTEIN	PUERDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKE)	299-333	303-337						
PIBMP_CAMV8	TRANS-ACTING TRANSCRIPTIONAL PROTEIN	BOVINE HERPESVIRUS TYPE 1 (STRAIN JURA)	190-224							
PIBMP_CAMV9	TRANS-ACTING TRANSCRIPTIONAL PROTEIN	BOVINE HERPESVIRUS TYPE 1 (STRAIN K22)	190-224							
PIBMP_CAMV0	TRANS-ACTING TRANSCRIPTIONAL ACTIVATOR PR	MAREK'S DISEASE HERPESVIRUS (STRAIN GA)	1022-1056							
PIBMP_CAMV1	TRANS-ACTING TRANSCRIPTIONAL PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	920-934							
PIBMP_CAMV2	TRANSCRIPTIONAL REGULATOR IE63 HOMOLOG	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	207-241							
PIBMP_CAMV3	TRANSCRIPTIONAL REGULATOR IE63	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	241-275							
PIBMP_CAMV4	TRANSCRIPTIONAL REGULATOR IE63 HOMOLOG	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4F)	282-316							
PIBMP_CAMV5	TRANSCRIPTIONAL REGULATOR IE63 HOMOLOG	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	195-229	258-306						
PIBMP_CAMV6	TRANSCRIPTIONAL REGULATOR IE63 HOMOLOG	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	87-121							
PIBMP_CAMV7	IMMEDIATE-EARLY PROTEIN IE68	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4F)	99-133							
PIBMP_CAMV8	IMMEDIATE-EARLY PROTEIN IE68	HERPESVIRUS SAIMIRI (STRAIN 11)	48-85							
PIBMP_CAMV9	HYPOTHETICAL PROTEIN IRL5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	13-47							
PIBMP_CAMV0	HYPOTHETICAL PROTEIN IRL12	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	74-162							
PKABL_FSVH1	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	FELINE SARCOMA VIRUS (STRAIN HARDY-ZUCKERMAN 2)	280-314							
PKABL_FSVH2	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	ABELSON MURINE LEUKEMIA VIRUS	217-251							
PKABL_FSVH3	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	AKT8 MURINE LEUKEMIA VIRUS	172-227	263-304						
PKFES_FSVG4	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	23-64	104-178						
PKFOR_FSVGR	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	FELINE SARCOMA VIRUS (STRAIN GARDNER-RASHEED)	218-252							
PKFMS_FSVMD	PN5 TYROSINE KINASE TRANSFORMING PROTEIN	FELINE SARCOMA VIRUS (STRAIN MCDONOUGH)	313-362	638-679	812-849					
PKFMS_FSVSP	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	AVIAN SARCOMA VIRUS (STRAIN PCII)	65-99							

PCGENE	ALLIOTIS	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS	65-99	152-251	348-398					
PKPFS_FU1SV	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	FUJINAMI SARCOMA VIRUS	47-81							
PKITH_AMEPV	THYMIDINE KINASE	AMSACTA MOOREI ENTOMOPHAGUS	38-82							
PKITH_CAPVK	THYMIDINE KINASE	CAPPOXVIRUS (STRAIN KS-1)	228-262	431-472						
PKITH_EBV	THYMIDINE KINASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	90-124							
PKITH_HSV11	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	90-124							
PKITH_HSV1C	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN CL101)	90-124							
PKITH_HSV1E	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN HFEN)	90-124							
PKITH_HSV1K	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	90-124							
PKITH_HSV1S	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN SC16)	90-124							
PKITH_HSV2J	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN J33)	91-125							
PKITH_HSVBM	THYMIDINE KINASE	BOVINE HERPES VIRUS TYPE 3 (STRAIN WC11)	616-665							
PKITH_HSVB4	THYMIDINE KINASE	EQUINE HERPES VIRUS TYPE 4 (STRAIN 1942)	19-53	178-219						
PKITH_HSVB6	THYMIDINE KINASE	EQUINE HERPES VIRUS TYPE 4 (STRAIN AB4P)	19-53	178-230						
PKITH_HSVF	THYMIDINE KINASE	FELINE HERPES VIRUS (FELID HERPES VIRUS 1)	180-214							
PKITH_HSVNR	THYMIDINE KINASE	MARMOSSET HERPES VIRUS	52-86							
PKITH_HSVSA	THYMIDINE KINASE	HERPES VIRUS SAIMIRI (STRAIN 11)	337-389							
PKITH_PRVN3	THYMIDINE KINASE	PSEUDORADICES VIRUS (STRAIN NIA-3)	161-202							
PKMIL_AVMH	MIL. SERINE/THREONINE-PROTEIN KINASE TRANSF	AVIAN RETROVIRUS NH2	69-103							
PKR15_HSV11	GENE 15 PROTEIN KINASE	ICTALURID HERPES VIRUS 1	190-224							
PKR2_HSV11	PROBABLE SERINE/THREONINE-PROTEIN KINASE	ICTALURID HERPES VIRUS 1	57-91	281-315						
PKR74_HSV11	GENE 74 PROTEIN KINASE	ICTALURID HERPES VIRUS 1	487-528	597-631						
PKRAF_MSV16	RAF SERINE/THREONINE-PROTEIN KINASE TRANSF	MURINE SARCOMA VIRUS 3611	11-45							
PKRB1_VACCC	30 KD PROTEIN KINASE HOMOLOG	VACCINIA VIRUS (STRAIN COPENHAGEN)	127-168							
PKRB1_VACCV	30 KD PROTEIN KINASE HOMOLOG	VACCINIA VIRUS (STRAIN WR)	127-168							
PKRB1_VARV	30 KD PROTEIN KINASE HOMOLOG	VARIOLA VIRUS	123-171							
PKRB2_VACCC	POSSIBLE PROTEIN KINASE B12	VACCINIA VIRUS (STRAIN COPENHAGEN)	147-181							
PKRB2_VACCV	POSSIBLE PROTEIN KINASE B12	VACCINIA VIRUS (STRAIN WR)	147-181							
PKRF1_VACCC	POSSIBLE PROTEIN KINASE F10	VACCINIA VIRUS (STRAIN COPENHAGEN)	169-203							
PKRF1_VACCV	POSSIBLE PROTEIN KINASE F10	VACCINIA VIRUS (STRAIN L-IVP)	136-170							
PKRF1_VARV	POSSIBLE PROTEIN KINASE F10	VARIOLA VIRUS	169-203							
PKROS_AVISU	ROS TYROSINE KINASE TRANSFORMING PROTEIN	AVIAN SARCOMA VIRUS (STRAIN UR2)	111-145							
PKRYK_AVIB3	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	AVIAN RETROVIRUS RPL30	15-66							
PKTHY_VACCV	THYMIDYLATE KINASE	VACCINIA VIRUS (STRAIN WR)	135-169							
PKYES_AVISY	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	AVIAN SARCOMA VIRUS (STRAIN Y71)	174-233							
PL100_ADE02	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	441-475							
PL100_ADE05	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	223-264							
PL100_ADE40	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 40	191-232	408-442						
PL100_ADE41	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 41	199-233							
PL52_ADE05	LATE L1 52 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	238-284	301-349						
PLMP2_EBV	GENE TERMINAL PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	238-284	301-349						
PMCEL_SFVKA	MRNA CAPPING ENZYME	SHOPE FIBROMA VIRUS (STRAIN KASZA)	144-179	294-338						
PMCEL_VACCC	MRNA CAPPING ENZYME	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-152	622-656						
PMCEL_VACCV	MRNA CAPPING ENZYME	VACCINIA VIRUS (STRAIN WR)	1-41	623-657						
PMCEL_VARY	MRNA CAPPING ENZYME	VARIOLA VIRUS	1-41	623-657						
PMCES_VACCC	MRNA CAPPING ENZYME	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-39	623-657						
PMCES_VACCV	MRNA CAPPING ENZYME	VACCINIA VIRUS (STRAIN WR)	72-137	245-286						
PMCES_VARY	MRNA CAPPING ENZYME	VARIOLA VIRUS	72-137	245-286						
PMCE_ASFB7	MRNA CAPPING ENZYME	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	116-157	279-313	738-772					
PMOVP_OR5V	MOVEMENT PROTEIN	ODONTOGLOSSUM RINGSPOT VIRUS	51-90							
PMOVP_PPMV5	MOVEMENT PROTEIN	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN)	26-66							
PMOVP_TMGMV	MOVEMENT PROTEIN	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U2)	29-66							

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILENAME	PROTEIN	VIRUS								
PMOV_P_TMYTO	MOVEMENT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN TOMATOOL)	32-66							
PMOV_P_TOMVA	MOVEMENT PROTEIN	TOMATO MOSAIC VIRUS (STRAIN LIIA)	32-80							
PMOV_P_TOMVL	MOVEMENT PROTEIN	TOMATO MOSAIC VIRUS (STRAIN LII)	32-80							
PMTC1_CHVNI	MODIFICATION METHYLASE CVI1	CHLORELLA VIRUS NC-1A	222-256							
PMTC2_CHVPI	MODIFICATION METHYLASE CVI2	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	116-164							
PMTC_AVIM2	MYC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS CM1	229-266	375-419						
PMTC_AVIMC	MYC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS MC29	210-267	376-420						
PMTC_AVIMD	MYC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS HBI	210-267	376-420						
PMTC_AVIME	MYC TRANSFORMING PROTEIN	AVIAN RETROVIRUS MH2E21	377-421							
PMTC_AVIOK	MYC TRANSFORMING PROTEIN	AVIAN RETROVIRUS OK10	224-261	370-414						
PMTC_FLV	MYC TRANSFORMING PROTEIN	FELINE LEUKEMIA VIRUS	393-437							
PMTC_FLVTT	MYC TRANSFORMING PROTEIN	FELINE LEUKEMIA PROVIRUS FTT	393-437							
PMTC_CVMA5	NUCLEOCAPSID PROTEIN	MURINE CORONAVIRUS MHV (STRAIN A59)	12-46							
PNCAP_AINOV	NUCLEOCAPSID PROTEIN	AINO VIRUS	177-211							
PNCAP_BEV	NUCLEOCAPSID PROTEIN	BERNE VIRUS	46-83	122-156						
PNCAP_BRSLA	NUCLEOCAPSID PROTEIN	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	62-108	163-200	248-303	343-383				
PNCAP_BUNGE	NUCLEOCAPSID PROTEIN	BUNYA VIRUS GERMISTON	176-228							
PNCAP_BUNLC	NUCLEOCAPSID PROTEIN	BUNYA VIRUS LA CROSSE	176-229							
PNCAP_BUNSH	NUCLEOCAPSID PROTEIN	BUNYA VIRUS SNOWSHOE HARE	176-229							
PNCAP_BUNYW	NUCLEOCAPSID PROTEIN	BUNYAMVERA VIRUS	175-228							
PNCAP_CCHFV	NUCLEOCAPSID PROTEIN	CRIMEAN-CONGO HEMORRHAGIC FEVER VIRUS (ISOLATE C680)	223-306	427-461						
PNCAP_CDVO	NUCLEOCAPSID PROTEIN	CANINE DISTEMPER VIRUS (STRAIN ONDERSTPOORT)	137-174	179-217	354-402					
PNCAP_CHAV	NUCLEOCAPSID PROTEIN	CHANDIPURA VIRUS (STRAIN I63314)	40-84	121-169						
PNCAP_CVBF	NUCLEOCAPSID PROTEIN	BOVINE CORONAVIRUS (STRAIN F15)	349-383							
PNCAP_CVBM	NUCLEOCAPSID PROTEIN	BOVINE CORONAVIRUS (STRAIN MEUBUS)	349-383							
PNCAP_CVCAE	NUCLEOCAPSID PROTEIN	CANINE ENTERIC CORONAVIRUS (STRAIN K378)	165-227							
PNCAP_CVHC	NUCLEOCAPSID PROTEIN	HUMAN CORONAVIRUS (STRAIN OC43)	349-383							
PNCAP_CVMH	NUCLEOCAPSID PROTEIN	MURINE CORONAVIRUS MHV (STRAIN JHM)	12-46							
PNCAP_CVFFS	NUCLEOCAPSID PROTEIN	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S)	149-206							
PNCAP_CVPPU	NUCLEOCAPSID PROTEIN	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S)	165-227							
PNCAP_CVPR8	NUCLEOCAPSID PROTEIN	PORCINE RESPIRATORY CORONAVIRUS (STRAIN 86/137004 / BRIT)	149-228							
PNCAP_CVPRM	NUCLEOCAPSID PROTEIN	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	149-228							
PNCAP_CVRS	NUCLEOCAPSID PROTEIN	PORCINE RESPIRATORY CORONAVIRUS (STRAIN 681)	12-46							
PNCAP_CVTK	NUCLEOCAPSID PROTEIN	RAT CORONAVIRUS (STRAIN 681)	12-46							
PNCAP_CVTKB	NUCLEOCAPSID PROTEIN	TURKEY ENTERIC CORONAVIRUS	349-383							
PNCAP_CVTKV	NUCLEOCAPSID PROTEIN	DUGBE VIRUS	230-306							
PNCAP_CVGBV	NUCLEOCAPSID PROTEIN	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	151-206							
PNCAP_FITV	NUCLEOCAPSID PROTEIN	HANTAAAN VIRUS (STRAIN 76-118)	1-35	40-74	333-381					
PNCAP_HANTV	NUCLEOCAPSID PROTEIN	HAZARA VIRUS (ISOLATE IC280)	231-297							
PNCAP_HRSV1	NUCLEOCAPSID PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 62-145)	62-145	163-200	248-303	343-380				
PNCAP_HRSV2	NUCLEOCAPSID PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	62-145	163-200	248-303	343-380				
PNCAP_HRSVA	NUCLEOCAPSID PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN GRAY)	186-227							
PNCAP_IBVG	NUCLEOCAPSID PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN K88323)	186-220							
PNCAP_IBVK	NUCLEOCAPSID PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN K88323)	186-220							
PNCAP_JUNN	NUCLEOCAPSID PROTEIN	JUNIN ARENAVIRUS	96-151							
PNCAP_LASSO	NUCLEOCAPSID PROTEIN	LASSA VIRUS (STRAIN GA391)	65-113	126-174						
PNCAP_LASSI	NUCLEOCAPSID PROTEIN	LASSA VIRUS (STRAIN JOSIAH)	65-113	122-174	467-504					
PNCAP_IDV	NUCLEOCAPSID PROTEIN	LACTATE DEHYDROGENASE-ELEVATING VIRUS	3-40							
PNCAP_LYCVW	NUCLEOCAPSID PROTEIN	LYMPHOCTIC CHLORIONENINGITIS VIRUS (STRAIN ARNSTRON)	45-117	460-497						
PNCAP_MAGV	NUCLEOCAPSID PROTEIN	LYMPHOCTIC CHLORIONENINGITIS VIRUS (STRAIN WE)	83-117	460-497						
PNCAP_MEASH	NUCLEOCAPSID PROTEIN	MAGUARI VIRUS	175-228							
PNCAP_MEASH	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN EDMONSTON)	188-226	363-411						
PNCAP_MEASH	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN HALL)	188-226	363-411						
PNCAP_MEASH	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN IP-3-CA)	188-226	363-411						

PCGENE	ALLNOTES	All Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8
FILENAME	PROTEIN	VIRUS								
PNCAP_MEASV	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN YAMAGATA-1)	188-226	361-411						
PNCAP_MOPEI	NUCLEOCAPSID PROTEIN	MOPEIA VIRUS	65-106	471-503						
PNCAP_MUMPI	NUCLEOCAPSID PROTEIN	MUMPS VIRUS (STRAIN SBL-1)	214-235	500-534						
PNCAP_MUMPM	NUCLEOCAPSID PROTEIN	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	214-235							
PNCAP_PHV	NUCLEOCAPSID PROTEIN	PROSPECT IIIIL VIRUS	1-35	40-74	337-392					
PNCAP_PIIHC	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C19)	212-272	441-510						
PNCAP_PIIHW	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN WASHINGTON/1957)	212-272	441-510						
PNCAP_PIIHT	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIIBA)	214-266	344-378						
PNCAP_PIB	NUCLEOCAPSID PROTEIN	BOVINE PARAINFLUENZA 3 VIRUS	200-403	446-490						
PNCAP_PIBH	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47883)	87-135	208-266	344-403					
PNCAP_PIBH4	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIIBA)	58-94	191-267						
PNCAP_PIBH8	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 4B VIRUS (STRAIN 68-333)	58-94	191-267						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	PICHINDE ARENAVIRUS	65-112							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	PIRY VIRUS	71-116	325-359						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	PUNJALA VIRUS (STRAIN HALLNAS BI)	1-35	40-75	337-392					
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	PUNJALA VIRUS (STRAIN SOTKANO)	1-35	40-75	337-392					
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	PUNJALA VIRUS OF NICE	93-141	248-303	344-388					
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN AYOI)	133-167							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	SENDAL VIRUS (STRAIN 2 / HOST MUTANTS)	212-272	345-404						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	SENDAL VIRUS (STRAIN ENDERS)	212-272	345-404						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	SENDAL VIRUS (STRAIN 2)	212-272	345-404						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	SEOL VIRUS (STRAIN SR-11)	1-35	40-74	331-381					
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	SIRIAN VIRUS 41	215-267	372-406	418-466					
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	SONCRUS YELLOW NET VIRUS	332-366							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	TACARIBE VIRUS	50-84	230-264						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	TOSCANA VIRUS	215-249							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	TOMATO SPOTTED WILT VIRUS (BRAZILIAN ISOLATE CPNH/BR)	79-120							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	TOMATO SPOTTED WILT VIRUS (HAWAIIAN ISOLATE)	79-120							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	TOMATO SPOTTED WILT VIRUS (STRAIN L3)	79-120							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	UUKUNIBIT VIRUS	51-102							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN 07-71)	249-325							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN MAKAH)	142-180	249-325						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN C42-108)	42-108							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRA 67-115)	67-115							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (STRAIN SAN JUAN)	42-115							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	7-48							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	7-41							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	112-160							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBLISY)	109-150							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	108-149							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR 96-140)	9-43	231-267						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR 96-140)	9-43							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	INFLUENZA A VIRUS (STRAIN A/BLACK DUCK/AUSTRALIA/702/78)	33-74							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	INFLUENZA A VIRUS (STRAIN A/CAMPEL/ONGOLIA/82)	50-91							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	INFLUENZA A VIRUS (STRAIN A/CHICKEN/INDONESIA/1370)	349-383							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/125)	349-383							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/749)	14-48							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	INFLUENZA A VIRUS (STRAIN A/AFOWL PLAGUE VIRUS/WEYBRID)	14-48	194-229						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	INFLUENZA A VIRUS (STRAIN A/AFOWL PLAGUE VIRUS/WEYBRID)	10-47	193-227						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	INFLUENZA A VIRUS (STRAIN A/AFOWL PLAGUE VIRUS/WEYBRID)	5-44	361-402						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	INFLUENZA A VIRUS (STRAIN A/AFOWL PLAGUE VIRUS/WEYBRID)	50-91							
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	INFLUENZA A VIRUS (STRAIN A/AFOWL PLAGUE VIRUS/WEYBRID)								

PCGENE	ALLMOTHS	ALL Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PPOL2_BAYM1	GENOME POLYPROTEIN 2	BARLEY YELLOW MOSAIC VIRUS (JAPANESE STRAIN II-1)	669-712	719-771	787-828					
PPOL2_GFLV	RNA2 POLYPROTEIN	GRAPEVINE FANLEAF VIRUS	365-406	342-402						
PPOL2_TBRVS	RNA2 POLYPROTEIN	TOMATO BLACK RING VIRUS (STRAIN 5)	4-38							
PPOL2_TSRVR	RNA2 POLYPROTEIN	TOMATO RINGSPOT VIRUS (ISOLATE RASPERRY)	158-206	314-368						
PPOLG_BOVEV	GENOME POLYPROTEIN	BOVINE ENTEROVIRUS (STRAIN VG-5-27)	849-886	1008-1064	1382-1416	1459-1507	1576-1617			
PPOLG_BVDVN	GENOME POLYPROTEIN	BOVINE VIRAL DIARRHEA VIRUS (ISOLATE NADL)	244-289	446-491	629-663	1033-1074	1303-1344	1392-1443	1869-1910	2226-2260
PPOLG_BVDVS	GENOME POLYPROTEIN	BOVINE VIRAL DIARRHEA VIRUS (STRAIN SD-1)	245-289	446-491	629-663	1033-1074	1303-1344	1392-1443	1779-1820	2136-2170
PPOLG_BYMV	GENOME POLYPROTEIN	BEAN YELLOW MOSAIC VIRUS	96-130							
PPOLG_COXA2	GENOME POLYPROTEIN	COXSACKIEVIRUS A21 (STRAIN COE)	9-43	362-396	664-698	1045-1100	1498-1546	1607-1648	1805-1839	1901-1946
PPOLG_COXA9	GENOME POLYPROTEIN	COXSACKIEVIRUS A9 (STRAIN GRIGGS)	15-49	1040-1086	1895-1940					
PPOLG_COXB1	GENOME POLYPROTEIN	COXSACKIEVIRUS B1	15-49	1021-1067	1876-1921					
PPOLG_COXB3	GENOME POLYPROTEIN	COXSACKIEVIRUS B3	15-49	1024-1070	1879-1924					
PPOLG_COXB4	GENOME POLYPROTEIN	COXSACKIEVIRUS B4	15-49	642-681	1022-1068	1877-1922				
PPOLG_COXB5	GENOME POLYPROTEIN	COXSACKIEVIRUS B5	15-49	1024-1070	1879-1924					
PPOLG_CYYV	GENOME POLYPROTEIN	CLOVER YELLOW VEIN VIRUS	120-154							
PPOLG_DEN18	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN B16-1)	74-108							
PPOLG_DEN1A	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN A1F 82-80)	74-108							
PPOLG_DEN1C	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN CV163677)	74-108							
PPOLG_DEN1S	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN SINGAPORE S275/90)	74-108	832-873	960-994	1142-1179	1386-1420	1614-1648	2518-2554	2946-3016
PPOLG_DEN1W	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN WESTERN PACIFIC)	74-108	832-873	960-994	1142-1179	1386-1420	1614-1648	2518-2554	2946-3016
PPOLG_DEN21	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (ISOLATE MALAYSIA M1)	448-492							
PPOLG_DEN22	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (ISOLATE MALAYSIA M2)	448-495							
PPOLG_DEN26	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681)	74-108	728-777	961-995	1146-1180	1246-1280	1418-1452	1615-1649	2517-2551
PPOLG_DEN27	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681-PDK53)	74-108	728-777	961-995	1146-1180	1246-1280	1418-1452	1615-1649	2517-2551
PPOLG_DEN2D	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN D2-04)	728-777							
PPOLG_DEN2H	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN TH-36)	497-546							
PPOLG_DEN2J	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN JAMAICA)	74-108	728-777	961-995	1146-1180	1246-1280	1418-1452	1615-1649	2517-2551
PPOLG_DEN2N	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN NEW GUINEA C)	213-247	398-432						
PPOLG_DEN2P	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN PA1593)	74-108	728-777	822-875	961-995	1146-1180	1246-1280	1418-1452	1615-1649
PPOLG_DEN2T	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN TONGA 1974)	448-497	552-595	681-715	866-900	966-1000	1205-1239		
PPOLG_DEN2U	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN PUO-218)	614-663							
PPOLG_DEN3	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 3	830-872	959-993	1385-1419	2224-2258	2480-2521	2704-2738	2940-2978	2980-3014
PPOLG_DEN4	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 4	957-993	1380-1414	2514-2555	2701-2735	2941-2975	2977-3011		
PPOLG_ECI1G	GENOME POLYPROTEIN	ECHOVIRUS 11 (STRAIN GREGORY)	213-259	1079-1113						
PPOLG_EMCV	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS	1074-1115	1472-1518	1522-1570	1665-1706	1789-1823			
PPOLG_EMCVB	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-B NONDIABETO)	145-179	1076-1117	1474-1520	1524-1572	1667-1708			
PPOLG_EMCVD	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-D DIABETOGEN)	145-179	1076-1117	1474-1520	1524-1572	1667-1708			
PPOLG_ENMG3	GENOME POLYPROTEIN	MENGO ENCEPHALOMYOCARDITIS VIRUS (STRAIN 37A)	145-179							
PPOLG_ENMGO	GENOME POLYPROTEIN	MENGO ENCEPHALOMYOCARDITIS VIRUS	78-112							
PPOLG_FMDV1	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A10-61)	221-255	294-328	578-612	1103-1153	1493-1528	2165-2200		
PPOLG_FMDVA	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A12)	220-254	293-327	577-611	1103-1164	1493-1528	2164-2199		
PPOLG_FMDVO	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAINS OIK AND OIBFS)	221-255	293-327	577-611	1103-1153	1493-1528	2164-2199		
PPOLG_FMDVS	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN CI-SANTA PAU [C-S])	87-128	693-728						
PPOLG_FMDVT	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN CI)	221-255	283-317	577-611					
PPOLG_HCV1	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE 1)	364-398							
PPOLG_HCVA	GENOME POLYPROTEIN	HOG CHOLERA VIRUS (STRAIN ALFORT)	440-493	626-660	695-729	1033-1070	1190-1235	1307-1343	1779-1820	2136-2170
PPOLG_HCVB	GENOME POLYPROTEIN	HOG CHOLERA VIRUS (STRAIN BRESCIA)	2466-2500	2525-2559	2667-2708	3057-3098	3152-3193	3406-3440		
PPOLG_HCVBK	GENOME POLYPROTEIN		440-493	626-660	695-729	1033-1070	1173-1215	1779-1820	2136-2170	2388-2436
PPOLG_HCVD0	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE DK)	2466-2500	2525-2559	2667-2708	3057-3098	3152-3193	3406-3440	3521-3562	
PPOLG_HCVH	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE EC10)	357-398	2378-2463						
			65-99							

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PPOLN_RHDV	NONSTRUCTURAL POLYPROTEIN	ONYONG-NYONG VIRUS (STRAIN GULU)	899-933	1942-1986	2444-2502					
PPOLN_RAVN	NON-STRUCTURAL POLYPROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS	188-234	306-347	409-437	1657-1716				
PPOLN_RRVT	NONSTRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN NB592)	895-929	1928-1962	2414-2467					
PPOLN_RUBVT	NONSTRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48)	597-631	1083-1136						
PPOLN_SFV	NONSTRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN THERIEN)	1506-1540	1551-1585	1730-1767	1862-1896				
PPOLN_SINDV	NONSTRUCTURAL POLYPROTEIN	SEMLIKI FOREST VIRUS	1094-1128	2358-2392						
PPOLN_SINDV	NONSTRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 82-5)	919-971	1491-1525	1961-1996	2444-2478				
PPOLN_EPMV	NONSTRUCTURAL POLYPROTEIN	SINDBIS VIRUS (STRAIN HRSP)	1491-1525	1959-1994	2442-2476					
PPOLN_EEVV	RNA REPLICASE POLYPROTEIN	EGGPLANT MOSAIC VIRUS	899-933	1127-1161						
PPOLN_EEVV3	STRUCTURAL POLYPROTEIN	EASTERN EQUINE ENCEPHALITIS VIRUS	372-406	914-951						
PPOLN_EEVV8	STRUCTURAL POLYPROTEIN	EASTERN EQUINE ENCEPHALITIS VIRUS (STRAIN VA33)(TEN BROQ 373-407)	372-406	914-951						
PPOLN_EEVV7	STRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TC-83)	1216-1250	915-952						
PPOLN_IBDV5	STRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD)	1216-1250							
PPOLN_IBDV4	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN 5270)	134-168	231-286	470-523					
PPOLN_IBDV3	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN AUSTRAL)	134-168	231-286	470-523					
PPOLN_IBDV2	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN CUL-1)	134-168	231-286	470-523					
PPOLN_IBDV1	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN E)	134-168	231-286	304-340					
PPOLN_IBDV0	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN PBQ-98)	115-149	212-267	451-504					
PPOLN_IPNVJ	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN STC)	134-168	249-283	470-523					
PPOLN_IPNVN	STRUCTURAL POLYPROTEIN	INFECTIOUS PANCREATIC NECROSIS VIRUS (SERO TYPE JASPER)	69-103	723-785						
PPOLN_ONNVG	STRUCTURAL POLYPROTEIN	INFECTIOUS PANCREATIC NECROSIS VIRUS (STRAIN NI)	716-786							
PPOLN_RRV2	STRUCTURAL POLYPROTEIN	ONYONG-NYONG VIRUS (STRAIN GULU)	1204-1238							
PPOLN_RRVN	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN 213970)	35-69							
PPOLN_RRVT	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN NB592)	369-403	939-973						
PPOLN_RUBVH	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48)	939-973							
PPOLN_RUBVR	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (VACCINE STRAIN RPV77)	999-1036							
PPOLN_RUBVT	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (VACCINE STRAIN RA272)	999-1036							
PPOLN_SINDV	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN THERIEN)	999-1036							
PPOLN_SINDV	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 82-5)	362-396							
PPOLN_SINDW	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (STRAINS HRSP AND HRLP)	362-396							
PPOLN_WEEV	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (WILD TYPE SB DERIVED FROM STRAIN AR339)	34-68							
PPOLN_BAEVM	STRUCTURAL POLYPROTEIN	WESTERN EQUINE ENCEPHALITIS VIRUS	913-947							
PPOLN_BLVAU	POL POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN M7)	42-80	676-743	794-832	1001-1042				
PPOL_BLVJ	POL POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	623-673							
PPOL_CAEVC	POL POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	623-673							
PPOL_CAMVD	POL POLYPROTEIN	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	879-934							
PPOL_COTMV	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/H)	177-211							
PPOL_EIAV9	PUTATIVE POLYPROTEIN	COMBILINA YELLOW MOTTLE VIRUS	87-121	313-367	447-498	838-876	896-930	1310-1351		
PPOL_EIAYC	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1369)	513-566	1022-1056						
PPOL_EIAYV	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22)	513-566	1022-1056						
PPOL_FENV1	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	512-565	1021-1055						
PPOL_FIVPE	POL POLYPROTEIN	FELINE ENDOGENOUS VIRUS ECE1	531-600	623-659	838-899					
PPOL_FIVSD	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	429-473	606-663						
PPOL_FIVT2	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	428-473	606-662						
PPOL_FIVT3	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE TM2)	428-472	595-562						
PPOL_FOAMV	ENZYMATIC POLYPROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	403-437							
PPOL_GALV	POL POLYPROTEIN	HUMAN SPUMARETROVIRUS (FOAMY VIRUS)	140-174	217-256	283-326					
PPOL_HTL1A	POL POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	528-562	673-740						
PPOL_HTL1C	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	670-711							
PPOL_HV1A2	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE)	670-711							
PPOL_HV1B1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ARV2/SF2 ISOLATE)	606-664							
PPOL_HV1B5	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH10 ISOLATE)	513-549							

PCGENE	ALLMOTIS	FILENAME	PROTEIN	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8
PPOL_HV1BR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BR1 ISOLATE)		618-676							
PPOL_HV1EL	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)		513-549							
PPOL_HV1H2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)		500-536							
PPOL_HV1JR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE)		501-537							
PPOL_HV1MA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRCF ISOLATE)		505-541							
PPOL_HV1MN	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)		476-536							
PPOL_HV1NS	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)		609-667							
PPOL_HV1ND	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOL)		501-537							
PPOL_HV1OV	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)		500-536							
PPOL_HV1PV	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYI ISOLATE)		501-537							
PPOL_HV1RH	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (P221 ISOLATE)		513-549							
PPOL_HV1U4	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (R2/HAT ISOLATE)		500-536							
PPOL_HV1Z1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN)		601-663							
PPOL_HV2BE	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (22/CDC-234 ISOLA)		500-536							
PPOL_HV2CA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	49-83	484-582							
PPOL_HV2D1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	356-390	464-562							
PPOL_HV2D2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	502-600	671-705							
PPOL_HV2G1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D203.7)	376-410	484-526							
PPOL_HV2NZ	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	464-562	631-667							
PPOL_HV2RO	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z)	44-78	356-390							
PPOL_HV2SB	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	357-391	465-563							
PPOL_HV2ST	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBLISV)	46-80	473-562							
PPOL_IPHA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	484-518	522-577							
PPOL_JSRV	PUTATIVE POL POLYPROTEIN	HAMSTER INTRACRISTERNAL A-PARTICLE	462-503								
PPOL_MLVAK	POL POLYPROTEIN	SHEEP PULMONARY ADENOMATOSIS VIRUS	190-231								
PPOL_MLVAV	POL POLYPROTEIN	AKR MURINE LEUKEMIA VIRUS	325-392								
PPOL_MLVFS	POL POLYPROTEIN	AKV MURINE LEUKEMIA VIRUS	677-744								
PPOL_MLVFF	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE 57)	682-749								
PPOL_MLVFP	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)	682-749								
PPOL_MLVMO	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE PGC-211)	682-749								
PPOL_MLVRD	POL POLYPROTEIN	MOLONEY MURINE LEUKEMIA VIRUS	677-744								
PPOL_MLVRK	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	677-744								
PPOL_MPNAV	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	62-129								
PPOL_OMVVS	POL POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	470-504								
PPOL_BSVP	POL POLYPROTEIN	OVINE LENTIVIRUS (STRAIN SA-OMVY)	470-505								
PPOL_RTBV	POL POLYPROTEIN	ROUS SARCOMA VIRUS (STRAIN PRAGUE C)	646-684								
PPOL_RTBP	POL POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS	7-44								
PPOL_SFV1	POL POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	7-44								
PPOL_SFV1L	POL POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	349-383								
PPOL_SIVAI	POL POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 3 / STRAIN LK)	124-163								
PPOL_SIVAZ	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM135 ISOLATE)	351-385								
PPOL_SIVAG	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM266 ISOLATE)	45-86								
PPOL_SIVAI	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM1 ISOLATE)	477-516								
PPOL_SIVAT	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR)	175-209								
PPOL_SIVCZ	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	657-698								
PPOL_SIVGB	POL POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIVCPZ)	527-561								
PPOL_SIVM1	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	9-57								
PPOL_SIVM1	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (NM142-83 ISOLATE)	485-519								
PPOL_SIVAK	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)	485-519								
PPOL_SIVS4	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (P236/SMH4 ISOLATE)	448-482								
PPOL_SIVSP	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PB1/BC1 ISOLATE)	451-485								
PPOL_SOCMV	POL POLYPROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	247-295								

PCGENE	ALLMOTIS	ALLMOTIS	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7
FILE NAME	PROTEIN	VIRUS	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7
PRRP1_LASIN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	168-242	279-313					AREA.1
PRRP1_LATKM	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	171-242	279-313					
PRRP1_LAV17	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/83/80)	171-242	279-313					
PRRP1_LAWL	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/VICTORIA/2/75)	171-242	279-313					
PRRP1_LAWIS	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/03)	168-242	279-313					
PRRP1_LAZH3	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/WISCONSIN/3/23/88)	168-242	279-313					
PRRP1_LAZON	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/WINEHONG KONG/12/6/82)	187-242	279-313					
PRRP1_LAZTF	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/WINE/ONTARIO/2/81)	171-242	279-313					
PRRP1_LNBAC	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/WINE/TENNESSEE/2/6/77)	171-242	279-313					
PRRP1_LNBAD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66)	208-249						
PRRP1_LNBLE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (WILD-TYPE))	208-249						
PRRP1_LNCUJ	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA B VIRUS (STRAIN B/LEE/40)	208-249						
PRRP2_LADH2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA C VIRUS (STRAIN C/US/50)	350-384	648-686	707-752				
PRRP2_LADH3	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	110-144	177-218					
PRRP2_LAFPR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAIDO/8/80)	110-144	177-218					
PRRP2_LAGU2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/OWL PLAGUE VIRUS/ROSTOCK/11/0-144)	177-218						
PRRP2_LAHLO	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/GULL/MARYLAND/7/04/77)	110-144	177-218					
PRRP2_LAJHT	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/QUEENSLAND/14/16/73)	110-144	177-218					
PRRP2_LAKOR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/QUEEN/TENNESSEE/5/86)	110-144	177-218					
PRRP2_LALE1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/KOREA/4/26/68)	110-144	177-218					
PRRP2_LALE2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/LENNINGRAD/1/34/57)	110-144	177-218					
PRRP2_LAJAN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/LENNINGRAD/1/34/57)	110-144	177-218					
PRRP2_LANT6	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6/30/78)	110-144	177-218					
PRRP2_LAP10	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/NT/60/68)	110-144	177-218					
PRRP2_LAPUE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/NT/60/68)	110-144	177-218					
PRRP2_LAJUD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LASIN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LATKM	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LAV17	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LAWL	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LAZH3	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LAZH2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LAZ11	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LAZTF	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LNBAC	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LNBAD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LNBS1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LAANN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	110-144	177-218					
PRRP2_LACH1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LAFPR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LAFPW	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LAGU2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LAJAG	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LAJH6	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LAILO	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LAJPR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LAKOE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LAKOR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LALE1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LALE2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					
PRRP2_LALE3	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/04)	111-196	349-390					

PCGENE	ALLMOTIS	ALLMOTIS (no bacteriophage)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8
FILE NAME	PROTEIN	VIRUS	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8
PRRP3_LAMN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/1/34/47/57)	1-42	363-402	473-514	707-755				
PRRP3_IAM6B	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/MALLAR/NEW YORK/6750/78)	363-402							
PRRP3_IAM76	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/MEPHUS/8/88)	7-41	363-402	473-514	707-755				
PRRP3_IAPUE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/NT/60/69)	1-42	363-402	473-514	707-755				
PRRP3_IARUD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/94)	1-42	363-402	473-514	707-755				
PRRP3_IASE2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/ARUDY TURNSTONE/NEW JERSEY/1/78)	1-42	363-402	473-514	707-755				
PRRP3_IASIN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/SEAL/MASSACHUSETTS/13/82)	1-42	363-402	473-514	707-755				
PRRP3_IATKM	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	1-42	363-402	473-514	707-755				
PRRP3_IATV7	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/833/80)	1-42	363-402	473-514	707-755				
PRRP3_IATW1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/75)	1-42	363-402	473-514	707-755				
PRRP3_IJAZ1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/43)	1-42	363-402	473-514	707-755				
PRRP3_IJAZTE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/1/50)	1-42	363-402	473-514	707-755				
PRRP3_INBAC	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/24/77)	7-41	363-402	473-514	707-755				
PRRP3_INBAD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 [COLD-ADAPTE])	438-533							
PRRP3_INCB6	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 [WILD-TYPE])	438-533							
PRRP3_INCIJ	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA C VIRUS (STRAIN C/BERLIN/1/85)	235-269	275-309						
PRRP3_THOQV	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA C VIRUS (STRAIN C/US/50)	235-269	275-316						
PRRP3_CVHZ2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	THOGOTO VIRUS	343-401							
PRRP3_CVMJH	RNA-DIRECTED RNA POLYMERASE	HUMAN CORONA VIRUS (STRAIN 229E)	338-392	495-571	1742-1776	1971-2008	3664-3724	3912-3946		
PRRP3_BEV	RNA-DIRECTED RNA POLYMERASE	MURINE CORONA VIRUS MHV (STRAIN JHM)	617-651	1364-1398	2769-2803	3586-3620	3821-3855	4075-4121	4319-4353	
PRRP3_CVMAS	RNA-DIRECTED RNA POLYMERASE	BERNE VIRUS	20-64	617-651	943-1009					
PRRP3_CVMJH	RNA-DIRECTED RNA POLYMERASE	MURINE CORONA VIRUS MHV (STRAIN A59)	1129-1170	1303-1337	1453-1494	1692-1726	2629-2670			
PRRP3_IBVB	RNA-DIRECTED RNA POLYMERASE	MURINE CORONA VIRUS MHV (STRAIN JHM)	1129-1170	1303-1337	1453-1494	1692-1726	2629-2670			
PRRP3_IBVK	RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	499-550	650-695	1460-1494	1690-1724	2627-2668			
PRRP3_BT10	RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN K88323)	115-156			1509-1548	2246-2287			
PRRP3_BUNYW	RNA-DIRECTED RNA POLYMERASE	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	208-342	705-748	825-903	1021-1076	1114-1201			
PRRP3_CDVO	RNA POLYMERASE	BUNYAKWERA VIRUS	2-36	80-114	308-363	371-412	1704-1741	1802-1861	1889-1935	
PRRP3_HANTV	RNA POLYMERASE BETA SUBUNIT	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEEPOORT)	20-54							
PRRP3_HRSVA	RNA POLYMERASE	HANTAN VIRUS (STRAIN 76-118)	98-139	174-208	372-431	557-591	655-696	731-783	905-949	1276-1310
PRRP3_MABVM	RNA POLYMERASE BETA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	1419-1453	1742-1776	1991-2027					
PRRP3_MABVP	RNA-DIRECTED RNA POLYMERASE	MARBURG VIRUS (STRAIN MUSOKE)	87-188	827-861	1131-1179	1185-1220	1465-1517			
PRRP3_MEASE	RNA-DIRECTED RNA POLYMERASE	MARBURG VIRUS (STRAIN POPP)	597-631	1046-1092	1490-1552	1804-1838	2029-2063	2194-2266		
PRRP3_MUMPM	RNA POLYMERASE BETA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	597-631	1046-1092	1490-1552					
PRRP3_NDVB	RNA POLYMERASE BETA SUBUNIT	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	197-231	790-824	869-903	1064-1109	1283-1317	2121-2155		
			164-214	220-234	267-304	576-627	752-807	1231-1286	1447-1481	1487-1531
			1566-1600	2191-2225						
PRRP3_PIZHT	RNA POLYMERASE BETA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C45)	167-208	230-295	1969-2013	2043-2077	2108-2142			
PRRP3_PIZH4	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSIIBDA)	136-170	575-628	730-785	1226-1284	1316-1357	1417-1479	1564-1630	1687-1721
			1901-1955							
PRRP3_PUUMH	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	48-91	107-163	540-574	747-781	1064-1129	1293-1356	1499-1536	1994-2036
PRRP3_RABVP	RNA-DIRECTED RNA POLYMERASE	PUDMALLA VIRUS (STRAIN HALLNAS B1)	98-132	381-415	444-488	557-591	655-696	731-783	922-976	1119-1153
			1742-1776	1940-1975	1991-2032					
PRRP3_RABVS	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN PV)	73-114	197-231	696-730	1174-1222	1522-1580	1584-1618	2068-2123	
PRRP3_RDV	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN SAD B19)	73-114	197-231	696-730	1174-1222	1522-1580	1584-1618	2068-2123	
PRRP3_RVFPZ	RNA-DIRECTED RNA POLYMERASE	RICE DWARF VIRUS	17-61	534-575	844-878	918-985	1037-1071			
PRRP3_SENDS	RNA-DIRECTED RNA POLYMERASE	RIFT VALLEY FEVER VIRUS (STRAIN ZH-548 M12)	398-439	641-678	832-887	1081-1115	1653-1687	1819-1870		
PRRP3_SENDE	RNA POLYMERASE BETA SUBUNIT	SENDIAI VIRUS (STRAIN Z / HOST MUTANTS)	309-343	540-600	612-656	747-781	1064-1119	1239-1280	1499-1536	2000-2034
			2146-2216							
PRRP3_SENDZ	RNA POLYMERASE BETA SUBUNIT	SENDIAI VIRUS (STRAIN ENDERS)	129-163	360-420	432-476	567-601	884-919	1059-1100	1319-1356	1820-1854
			1966-2036							

PCGENE	ALLNOTES	ALL Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8
FILE NAME	PROTEIN	VIRUS								
PRPL_SEOUB	RNA POLYMERASE BETA SUBUNIT	SENDAL VIRUS (STRAIN Z)	309-343	340-500	612-656	747-781	1064-1119	1239-1280	1499-1536	2000-2034
PRPL_SY3WR	RNA-DIRECTED RNA POLYMERASE	SEOUL VIRUS (STRAIN 80-39)	2146-2216							
PRPL_SY3V	RNA POLYMERASE BETA SUBUNIT	SEMIAN VIRUS 5 (STRAIN 21004-WR)	98-139	174-208	557-591	655-696	731-765	1742-1776	1947-1981	1993-2027
PRPL_TS3V	RNA POLYMERASE BETA SUBUNIT	SONCHUS YELLOW NET VIRUS	547-627	747-781	1225-1280	1319-1353	1592-1626	1676-1715	2024-2038	
PRPL_TS3V	RNA-DIRECTED RNA POLYMERASE	TOMATO SPOTTED WILT VIRUS (BRAZILIAN ISOLATE CPNH/BR)	760-794	825-859	977-1014	1089-1137	1978-2032	2059-2107		
PRPL_UUK	RNA-DIRECTED RNA POLYMERASE	UUKUNIEMI VIRUS	46-101	399-433	539-573	589-634	1119-1153	1195-1236	1321-1379	1538-1572
PRPL_VSVH	RNA POLYMERASE	VESECULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRA 319-358)	1684-1725	1857-1898	2073-2127	2156-2200	2206-2247	2315-2368	2378-2419	2809-2843
PRPL_VSVJ	RNA POLYMERASE BETA SUBUNIT	VESECULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRA 319-358)	127-183	282-323	836-874	1030-1071	1481-1515	2015-2049	2061-2098	
PRPL_VSVJ	RNA POLYMERASE BETA SUBUNIT	VESECULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRA 319-358)	674-715	720-763	1522-1567	1802-1836				
PRPL_VSVJ	RNA-DIRECTED RNA POLYMERASE	APPLE CHLOROTIC LEAF SPOT VIRUS	674-715	720-763	1522-1567	1802-1836				
PRPL_BWYF	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BET WESTERN YELLOW VIRUS (ISOLATE FL-1)	228-262	557-596	916-950	1235-1269				
PRPL_BYDV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BARLEY YELLOW DWARF VIRUS (ISOLATE MAV-PS1)	304-341							
PRPL_BYDV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BARLEY YELLOW DWARF VIRUS (ISOLATE PAV)	234-285							
PRPL_BYDV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BARLEY YELLOW DWARF VIRUS (ISOLATE P-PAV)	234-285							
PRPL_CARM	PUTATIVE RNA-DIRECTED RNA POLYMERASE	CARNATION MOTTLE VIRUS	93-131							
PRPL_CGMV	PROBABLE RNA-DIRECTED RNA POLYMERASE	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STR 7-41)	387-428	446-480		726-767	1445-1479			
PRPL_IBDV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN 5270)	384-432	446-484						
PRPL_IBDV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN AUSTRAL)	144-185	266-307	709-757	771-809				
PRPL_IPNV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE JASPER)	147-181	268-307	501-535	750-802				
PRPL_IPNV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE SP)	147-181	268-307	501-535	750-802				
PRPL_LYCV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN ARMSTRON)	301-346	805-886	926-960	1509-1543	2090-2124			
PRPL_LYCV	RNA POLYMERASE	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN WE)	301-345							
PRPL_MCMV	PROBABLE RNA-DIRECTED RNA POLYMERASE	MAIZE CHLOROTIC MOTTLE VIRUS	181-215	697-731						
PRPL_PEARV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	PEA ENATION MOSAIC VIRUS	321-358							
PRPL_PLRV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	POTATO LEAFROLL VIRUS (STRAIN I)	336-373	423-457						
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	336-373	423-457						
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN)	321-362	402-454	627-661	862-896				
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	RED CLOVER NECROTIC MOSAIC VIRUS	666-700							
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 3 / STRAIN DEARING)	310-361							
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 2 / STRAIN D3/JONES)	310-361							
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 1 / STRAIN LANG)	310-361							
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN RF)	60-96	133-167	204-245	535-569	579-631	639-686	690-724	771-805
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN UK)	60-96	133-167	204-245	535-569	579-631	639-686	690-724	771-805
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	3-44	255-299	335-397	476-510	518-620	966-1007		
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	62-96	133-167	336-377	581-631	636-686	690-724	771-842	
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	SEMIAN 11 ROTAVIRUS (STRAIN SA11)	60-96	133-167	535-569	579-631	639-686	690-724	771-805	
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	SOUTHERN BEAN MOSAIC VIRUS	628-665							
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	SACCHAROMYCES CEREVISIAE VIRUS L-A	100-134	147-191						
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TACARIBE VIRUS	155-204	220-278	375-416	484-518	891-925	1030-1081	1285-1319	1981-2015
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U2)	401-449	682-720	765-818					
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (VULGARIS)	3-37	401-453	665-699					
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (STRAIN KOREAN)	3-37	401-453	665-699					
PRPL_PPMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (STRAIN TOMATO/L)	3-37	401-453	860-894					

FCGENSE	ALLMOTHS	All Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8
FILE NAME	PROTEIN	VIRUS								
PRRPP_BR5VA	RNA-DIRECTED RNA POLYMERASE	TOBACCO NECROSIS VIRUS (STRAIN D)	102-144							
PRRPP_CDVO	RNA POLYMERASE ALPHA SUBUNIT	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)		160-216						
PRRPP_HRSV	RNA POLYMERASE ALPHA SUBUNIT	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEEPOORT)	312-373							
PRRPP_HRSV1	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS	99-158	160-216						
PRRPP_HRSVA	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 1)	99-158	160-216						
PRRPP_HRSVL	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	99-158	160-216						
PRRPP_MEASE	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN 1)	99-158	160-216						
PRRPP_MEASI	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	315-374	460-495						
PRRPP_MEASV	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN IP-3-CA)	315-374	460-495						
PRRPP_MUMPI	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN YAMAGATA-1)	315-374	460-495						
PRRPP_MUMPE	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN SBL-1)	149-183	213-275						
PRRPP_MUMPM	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN ENDERS)	214-276							
PRRPP_NDVA	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	214-276							
PRRPP_NDVB	RNA POLYMERASE ALPHA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/21)	100-134							
PRRPP_PI1HB	RNA POLYMERASE ALPHA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C445)	100-138							
PRRPP_PI1HC	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C35)	80-114	313-364	375-437					
PRRPP_PI1HD	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	80-114	313-364	375-437					
PRRPP_PI1HE	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN CI-573)	80-114	313-364	375-437					
PRRPP_PI1H	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN CI-14030)	66-114	237-271	313-364	375-437				
PRRPP_PI1HT	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 2 VIRUS	218-281							
PRRPP_PI1B	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA)	218-281							
PRRPP_PI1H4	RNA POLYMERASE ALPHA SUBUNIT	BOVINE PARAINFLUENZA 3 VIRUS	31-130	414-470						
PRRPP_PI1H4A	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	410-499							
PRRPP_PI1H4B	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA)	4-38	222-285						
PRRPP_PI1TV	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 4B VIRUS (STRAIN 68-333)	222-285							
PRRPP_RABVA	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN AVO1)	137-174							
PRRPP_RABVC	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN CVS-11)	93-127							
PRRPP_RABVE	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN ERA), AND (STRAIN PM)	93-127							
PRRPP_RABVP	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN PV)	93-127							
PRRPP_RABVS	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN SAD B19)	93-127							
PRRPP_SEND1	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN Z / HOST MUTANTS)	313-364	375-447						
PRRPP_SEND6	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN 694)	323-364	375-447						
PRRPP_SENDF	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN FUSHIMI)	313-364	375-447						
PRRPP_SENDH	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN HARRIS)	313-364	375-447						
PRRPP_SENDZ	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN Z)	313-364	375-447						
PRRPP_SVS	RNA POLYMERASE ALPHA SUBUNIT	SIMIAN VIRUS 5 (STRAIN W3)	205-278							
PRRPP_SYNV	RNA POLYMERASE ALPHA SUBUNIT	SONGHUIS YELLOW NET VIRUS	138-173	233-281						
PRRPP_VSVIG	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN G1-43)	138-173	233-281						
PRRPP_VSVIM	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN M1-41)	138-173	233-281						
PRRPP_VSVIM4	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIO	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIS	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV2	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV3	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV4	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV5	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV6	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV7	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV8	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV9	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV10	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV11	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV12	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV13	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV14	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV15	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV16	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV17	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV18	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV19	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV20	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV21	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV22	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV23	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV24	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV25	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV26	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV27	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV28	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV29	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV30	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV31	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV32	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV33	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV34	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV35	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV36	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV37	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV38	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV39	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV40	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV41	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV42	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV43	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV44	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV45	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV46	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV47	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV48	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV49	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV50	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV51	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV52	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV53	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV54	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV55	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV56	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV57	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV58	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV59	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV60	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV61	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV62	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV63	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV64	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV65	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV66	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV67	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV68	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV69	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV70	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV71	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV72	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV73	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV74	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV75	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN 3-37)	138-173	233-281						
PRRPP_VSVIV76	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (

PCGENE	ALL MOTIFS	ALL VIRUSES (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS								
PSPIA_VACCC	SERINE PROTEINASE INHIBITOR 3	VARIOLA VIRUS	122-171	229-270						
PTIC2_CHVP1	SERINE PROTEINASE INHIBITOR 2 HOMOLOG FIRST	VACCINIA VIRUS (STRAIN COPENHAGEN)	11-65							
PTAA2_VACCV	TYPE II RESTRICTION ENZYME CVI/II	PARAMYXOMORPHUS BURSARIA CHLORELLA VIRUS 1	48-85							
PTAG8_FOWPV	TRANS-ACTIVATOR PROTEIN A2	VACCINIA VIRUS (STRAIN WR. COPENHAGEN, AND VARIOLA VI	95-133	173-207						
PTAG8_VACCV	TRANS-ACTIVATOR PROTEIN FP0	FOWLPOX VIRUS	3-51							
PTAG8_VARY	TRANS-ACTIVATOR PROTEIN GK1	VACCINIA VIRUS (STRAIN WR.) (STRAIN COPENHAGEN)	3-51							
PTALA_BFDV	TRANS-ACTIVATOR PROTEIN GK1	VARIOLA VIRUS	3-51							
PTALA_POVBO	LARGE T ANTIGEN	BUDGERIGAR FLEDGLING DISEASE VIRUS	291-325	464-498						
PTALA_POVHA	LARGE T ANTIGEN	BOVINE POLYOMAVIRUS	303-337	495-537						
PTALA_POVIC	LARGE T ANTIGEN	HAMSTER POLYOMAVIRUS	464-501	587-621						
PTALA_POVLY	LARGE T ANTIGEN	POLYOMAVIRUS JC	153-187	589-623						
PTALA_POVMB	LARGE T ANTIGEN	LYMPHOTROPIC POLYOMAVIRUS	3-41	206-258	437-478					
PTALA_POVMC	LARGE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN 3)	509-544							
PTAMI_POVHA	LARGE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN A2)	507-542							
PTAMI_POVM3	MIDDLE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN CRAWFORD SMALL-PLAQUE)	504-539							
PTAMI_POVM3	MIDDLE T ANTIGEN	HAMSTER POLYOMAVIRUS	339-378							
PTAMI_POVM3	MIDDLE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN 3)	211-245	388-422						
PTAMI_POVM3	MIDDLE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN A2)	192-226	369-403						
PTASM_POVBO	MIDDLE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN CRAWFORD SMALL-PLAQUE)	192-226	369-403						
PTASM_POVLY	SMALL T ANTIGEN	BOVINE POLYOMAVIRUS	41-85							
PTATR_NPVAC	SMALL T ANTIGEN	LYMPHOTROPIC POLYOMAVIRUS	3-41							
PTATR_NPVM	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	AUTOGRAHA CALIFORNICA NUCLEAR POLYOMAVIRUS	408-442	46-80						
PTATR_NPVP	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	BOMBAY MORI NUCLEAR POLYOMAVIRUS	413-447	451-485	494-528					
PTAT_SIVAI	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	ORGANIA PSEUDOTUGATA MULTICAPSID POLYOMAVIRUS	391-455	511-554						
PTAT_SIVAI	TAT PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	73-109							
PTAT_VILV	TAT PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR	137-185							
PTAT_VILV1	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	VISNA LENTIVIRUS (STRAIN 1514)	28-74							
PTAT_VILV2	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1-1K51)	40-74							
PTCB_FLV	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1-1K52)	40-74							
PTGCP_HSV11	T-CELL RECEPTOR BETA CHAIN PRECURSOR	FELINE LEUKEMIA VIRUS	279-321							
PTGCP_HSV11	TEGMENT PHOSPHOPROTEIN US9	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	27-61							
PTGCP_HSV11	NONSENSE									
PTGCP_HSV11	NONSENSE									
PTGCP_HSV11	NONSENSE									
PTGCU_HCMVA	LARGE TEGMENT PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	768-802	821-855	938-972	1101-1138	1208-1242	1479-1516	1700-1753	1809-1867
PTGCU_HSV11	PROBABLE LARGE TEGMENT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	1870-1916	1920-1954	3108-3149					
PTGCU_HSV11	PROBABLE LARGE TEGMENT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	34-71	215-249	543-581	700-738	868-909	936-977	1004-1038	1163-1200
PTGCU_HSV11	PROBABLE LARGE TEGMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	1237-1296	2200-2235						
PTGCU_HSV11	PROBABLE LARGE TEGMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	731-765	801-842	1022-1059	1223-1269	1275-1309	1315-1370	1520-1531	1609-1669
PTGCU_HSV11	PROBABLE LARGE TEGMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	1673-1714	1749-1783	1820-1854	2670-2704				
PTGCU_HSV11	PROBABLE LARGE TEGMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	30-71	224-262	567-608	712-757	931-1000	1091-1181	1192-1233	1357-1400
PTGCU_HSV11	PROBABLE LARGE TEGMENT PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	560-597	635-683	794-848	908-956	1108-1151	1155-1246	1399-1458	1487-1549
PTGCU_HSV11	PROBABLE LARGE TEGMENT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	1619-1637	1661-1695	1702-1736	1806-1843	1947-1981			
PTGCU_HSV11	PROBABLE LARGE TEGMENT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	520-558	560-598	615-652	672-710	777-822	846-898	948-986	1287-1332
PTGCU_HSV11	PROBABLE LARGE TEGMENT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	1434-1502							
PTERM_ADE02	LARGE TEGMENT PROTEIN	VARIOLA-ZOSTER VIRUS (STRAIN DUMAS)	657-696	713-747	804-841	933-972	1117-1158	1415-1471	1528-1562	1572-1620
PTERM_ADE03	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 2	1633-1705	1719-1756	1945-1986	2727-2761				
PTERM_ADE07	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 3	490-572							
PTERM_ADE12	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 7	491-559							

PCC	GENE	ALL MOTIFS	ALL VIRUSES (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PUL01	AVIS1	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 12	443-491	497-538						
PTMAF	AVIS4	TRANSFORMING PROTEIN IUN	AVIAN SARCOMA VIRUS (STRAIN 17)	210-284							
PTOP1	SFVKA	TRANSFORMING PROTEIN MAF	AVIAN MUSCULOPONEURITIC FIBROSARCOMA VIRUS AS42	247-288	295-340						
PTOP2	ASF2	DNA TOPOISOMERASE II	SHOPE FIBROMA VIRUS (STRAIN KASZA)	127-183	269-310						
PTOP3	ASF2	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	146-180	481-515	601-642	945-979	1038-1093	1123-1162		
PTIS1	SMSAV	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (ISOLATE MALAWI LIL 201)	146-180	480-514	600-641	902-936	944-978	1038-1091	1122-1161	
PTISY	VZVD	PDGF-RELATED TRANSFORMING PROTEIN P28-SIS	SMIAN SARCOMA VIRUS	16-71							
PUB1	NPVP	THYMIDYLATE SYNTHASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	215-260							
PUL01	HCMVA	UBIQUITIN-LIKE PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS 43-80	169-203							
PUL02	HSV1	HYPOTHETICAL PROTEIN UL1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	94-128							
PUL03	HSV2H	PROTEIN UL3	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	92-126							
PUL03	HSV2B	PROTEIN UL3	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	102-136							
PUL04	EBV	GENE 60 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	70-104							
PUL04	EBV	PROTEIN UL4	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	102-136							
PUL06	HCMVA	VRION PROTEIN BBRF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	104-145	313-347	376-410					
PUL06	HSV1	HYPOTHETICAL PROTEIN UL6	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	216-250							
PUL06	HSV2B	VRION PROTEIN UL6	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	36-94	103-141	294-329	337-371	416-479			
PUL06	HSV2A	VRION GENE 56 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	62-170	357-413	448-503					
PUL06	VZVD	VRION GENE 43 PROTEIN	HERPESVIRUS SAMIRI (STRAIN 11)	90-140	151-194	302-336	364-405				
PUL08	HCMVA	VRION GENE 54 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	87-131	350-409	704-738					
PUL09	HSV2B	HYPOTHETICAL PROTEIN UL9	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	6-50							
PUL09	VZVD	ORIGIN OF REPLICATION BINDING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	174-208							
PUL11	HCMVA	ORIGIN OF REPLICATION BINDING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	122-163							
PUL13	HCMVA	NONSENSE									
PUL14	HCMVA	HYPOTHETICAL PROTEIN UL13	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	47-81	185-227						
PUL14	HSV2B	HYPOTHETICAL PROTEIN UL14	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	305-343							
PUL14	PRV3	HYPOTHETICAL GENE 48 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	52-96	246-283						
PUL14	VZVD	UL14 PROTEIN HOMOLOG	PSEUDORABIES VIRUS (STRAIN NIA-3)	43-95							
PUL16	HSV2B	HYPOTHETICAL GENE 46 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	61-103							
PUL17	HSV2B	GENE 46 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	266-300							
PUL21	HSV2B	PROTEIN 10R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	239-280							
PUL23	HCMVA	GENE 40 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	44-78	421-474						
PUL24	HCMVA	HYPOTHETICAL PROTEIN UL23	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	213-253							
PUL24	ILTVT	HYPOTHETICAL PROTEIN UL24	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	5-39							
PUL25	HCMVA	PROTEIN UL24 HOMOLOG	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V88)	161-195							
PUL25	HSV1	HYPOTHETICAL PROTEIN UL25	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	255-341	351-399						
PUL25	HSV2B	VRION PROTEIN UL25	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	370-411							
PUL25	HSV2A	VRION PROTEIN UL25	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	364-413							
PUL25	ILTVT	VRION GENE 19 PROTEIN	HERPESVIRUS SAMIRI (STRAIN 11)	29-92	183-231	365-406					
PUL25	VZVD	64.1 KD VRION PROTEIN	INFECTIOUS LARVINGOTRACHEITIS VIRUS (STRAIN THORNE V88)	38-84	165-206						
PUL27	HCMVA	VRION GENE 24 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	300-388							
PUL31	HSV2B	HYPOTHETICAL PROTEIN UL31	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	244-285							
PUL31	VZVD	GENE 29 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	153-187							
PUL32	HSV2B	GENE 27 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	163-197							
PUL32	VZVD	MAJOR ENVELOPE GLYCOPROTEIN 300	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (STRAIN AB1)	342-376							
PUL33	HCMVA	PROBABLE MAJOR ENVELOPE GLYCOPROTEIN 26	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	72-106	296-344						
PUL33	VZVD	G-PROTEIN COUPLED RECEPTOR HOMOLOG UL33	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	94-135	309-352						
PUL34	EBV	GENE 25 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	29-63							
PUL34	HCMVA	BBRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	159-200							
PUL34	HSV1	HYPOTHETICAL PROTEIN UL34	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	113-147							
PUL35	HCMVA	VRION PROTEIN UL34	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	187-221							
PUL37	EBV	HYPOTHETICAL PROTEIN UL35	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	231-268							

PCGENE	ALLNOTIS	All Viruses (no Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILENAME	PROTEIN	VIRUS	708-742							
PUL37_HSV11	PROTEIN BOLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	708-742							
PUL37_HSV11	PROTEIN BOLF1	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	833-891							
PUL37_HSV5A	GENE 21 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AD4P)	82-137	311-345	614-648	715-750	781-822			
PUL37_VZVD	GENE 63 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	6-65	682-741						
PUL38_HCMVA	GENE 21 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	719-753	786-827						
PUL41_VZVD	HYPOTHETICAL PROTEIN UL38	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	10-51							
PUL42_HSV11	HOST SHUTOFF VIRION PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	330-366							
PUL42_HSV11	DNA-BINDING PROTEIN UL42	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	134-168							
PUL43_HCMVA	DNA-BINDING GENE 18 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	138-172	221-263						
PUL43_HSV11	HYPOTHETICAL PROTEIN UL43	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	72-109							
PUL43_VZVD	MEMBRANE PROTEIN UL43 HOMOLOG	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	27-68							
PUL45_HSV11	GENE 13 MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	312-363							
PUL45_HCMVA	PROTEIN UL45	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	96-137							
PUL47_HSV11	PROTEIN UL47	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	96-137							
PUL47_HSV11	VIRION PROTEIN UL47	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	114-165	448-485	745-856					
PUL47_HSV11	VIRION PROTEIN UL47	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	473-518							
PUL47_HSV11	80.7 KD ALPHA TRANS-INDUCING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	473-518							
PUL47_HSV11	97 KD ALPHA TRANS-INDUCING PROTEIN	BOVINE HERPESVIRUS TYPE 1 (STRAIN P8-2)	561-612							
PUL47_HSV11	97 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	183-246	582-620	825-866					
PUL50_HCMVA	ALPHA TRANS-INDUCING FACTOR 91.8 KD PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	219-253	371-412	817-866					
PUL51_HSV11	PROTEIN UL50	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	84-135	156-209	664-701					
PUL51_HSV11	PROTEIN UL51	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	155-189							
PUL51_HSV11	GENE 8 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	118-169							
PUL51_VZVD	GENE 8 PROTEIN	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	121-162							
PUL52_EBV	GENE 7 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	120-161							
PUL52_HSV11	PROBABLE DNA REPLICATION PROTEIN BSLF1	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	122-163							
PUL52_HSV11	DNA REPLICATION PROTEIN UL52	EPSTEIN-BARR VIRUS (STRAIN B95-8)	188-255							
PUL52_HSV11	DNA REPLICATION PROTEIN UL52	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	189-223							
PUL52_VZVD	PROBABLE DNA REPLICATION GENE 56 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	141-182	979-970						
PUL53_HCMVA	PROBABLE DNA REPLICATION GENE 6 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	443-483							
PUL53_HSV11	PROTEIN UL53	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	301-342							
PUL54_HCMVA	PROTEIN UL53	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	12-48							
PUL70_HCMVA	HYPOTHETICAL PROTEIN UL64	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG32)	151-185							
PUL74_HCMVA	PROBABLE DNA REPLICATION PROTEIN UL70	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	32-73							
PUL87_HSV11	HYPOTHETICAL PROTEIN UL74	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	39-99							
PUL87_HSV11	HYPOTHETICAL PROTEIN 3R	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	43-79							
PUL88_HCMVA	HYPOTHETICAL GENE 24 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	729-770							
PUL91_HSV11	HYPOTHETICAL GENE 30 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	366-400	582-616						
PUL92_EBV	HYPOTHETICAL PROTEIN UL88	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	357-391							
PUL92_HCMVA	HYPOTHETICAL PROTEIN BOLF4	HERPESVIRUS SAIMIRI (STRAIN 11)	24-58							
PUL92_HSV11	HYPOTHETICAL PROTEIN UL92	EPSTEIN-BARR VIRUS (STRAIN B95-8)	107-144	188-222						
PUL92_HSV11	HYPOTHETICAL PROTEIN 9R	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	79-116							
PUL93_HCMVA	HYPOTHETICAL GENE 31 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	101-145	174-216						
PUL93_HCMVA	PROTEIN UL93	HERPESVIRUS SAIMIRI (STRAIN 11)	88-122							
PUL95_HSV11	HYPOTHETICAL PROTEIN UL95	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	23-57	299-384						
PUL96_HCMVA	HYPOTHETICAL PROTEIN 13R	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	34-71	259-293						
PUL96_HSV11	HYPOTHETICAL PROTEIN UL96	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	73-151	233-270						
PUL96_HSV11	HYPOTHETICAL PROTEIN 14R	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	51-103							
PUL96_HCMVA	HYPOTHETICAL GENE 15 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	53-113							
PUL96_HCMVA	HYPOTHETICAL PROTEIN UL102	HERPESVIRUS SAIMIRI (STRAIN 11)	45-100							
PUL96_HCMVA	VIRION PROTEIN UL104	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	6-40	758-792						
PUL96_HCMVA		HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	1-56	130-171	330-364	439-492	541-575			

PGCENE	ALLNOTIS	FILENAME	PROTEIN	ALLNOTIS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PUNG_HSV11	PROTEIN	PROTEIN	PROTEIN	ALL Viruses (no bacteriophages)								
PUNG_HSV2	HYPOHETICAL PROTEIN UL100	HYPOHETICAL PROTEIN UL100	HYPOHETICAL PROTEIN UL100	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	84-125							
PUNG_HSV3	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	227-268							
PUNG_HSV4	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 331)	188-229							
PUNG_HSV5	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 11632)	148-189							
PUNG_HSV6	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	HERPESVIRUS SAIMIRI (STRAIN 11)	135-176							
PUNG_HSV7	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	SHOPE FIBROMA VIRUS (STRAIN KASZA)	81-115							
PUNG_HSV8	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	79-120							
PUNG_HSV9	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	URACIL-DNA GLYCOSYLASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	86-120							
PUS11_HOMVA	US1 PROTEIN	US1 PROTEIN	US1 PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	2-36							
PUS14_HOMVA	HYPOHETICAL PROTEIN HXL1	HYPOHETICAL PROTEIN HXL1	HYPOHETICAL PROTEIN HXL1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	3-51							
PUS18_HOMVA	HYPOHETICAL PROTEIN HXL4	HYPOHETICAL PROTEIN HXL4	HYPOHETICAL PROTEIN HXL4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	187-225							
PUS23_HOMVA	MEMBRANE PROTEIN HVL5	MEMBRANE PROTEIN HVL5	MEMBRANE PROTEIN HVL5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	294-335	535-578						
PUS24_HOMVA	HYPOHETICAL PROTEIN HHL7	HYPOHETICAL PROTEIN HHL7	HYPOHETICAL PROTEIN HHL7	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	135-172							
PUS26_HOMVA	HYPOHETICAL PROTEIN HHL6	HYPOHETICAL PROTEIN HHL6	HYPOHETICAL PROTEIN HHL6	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	535-584							
PUS27_HOMVA	HYPOHETICAL PROTEIN HHL5	HYPOHETICAL PROTEIN HHL5	HYPOHETICAL PROTEIN HHL5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	6-40							
PUS30_HOMVA	G-PROTEIN COUPLED RECEPTOR HOMOLOG US27	G-PROTEIN COUPLED RECEPTOR HOMOLOG US27	G-PROTEIN COUPLED RECEPTOR HOMOLOG US27	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	135-169	274-312						
PV125_AHYLE	125 KD PROTEIN	125 KD PROTEIN	125 KD PROTEIN	ALFAIFA MOSAIC VIRUS (STRAIN 425 / ISOLATE LEIDEN)	18-52	326-367	591-649					
PV143_NPVAC	HELICASE	HELICASE	HELICASE	AUTOGRAFA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	313-350	1114-1150	1179-1213					
PV168_TRVSY	16 KD PROTEIN	16 KD PROTEIN	16 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN PSQ)	75-117							
PV186_TRVSY	16 KD PROTEIN	16 KD PROTEIN	16 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN SYM)	75-117							
PV1A_BMV	1A PROTEIN	1A PROTEIN	1A PROTEIN	BROAD BEAN MOTTLE VIRUS	21-55	349-405	492-526	710-731	837-884	890-924		
PV1A_CCMV	1A PROTEIN	1A PROTEIN	1A PROTEIN	BROME MOSAIC VIRUS	4-66	348-411						
PV1A_CMVFN	1A PROTEIN	1A PROTEIN	1A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	4-53	242-276	348-389	487-526				
PV1A_CMVQ	1A PROTEIN	1A PROTEIN	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	11-66	393-434	584-619	868-916				
PV1A_PSV1	1A PROTEIN	1A PROTEIN	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)	11-66	393-434	584-619	868-916				
PV21K_HSVTH	1A PROTEIN	1A PROTEIN	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)	11-66	393-434						
PV21K_HSVTH	1A PROTEIN	1A PROTEIN	1A PROTEIN	PEANUT STUNT VIRUS (STRAIN J)	4-66							
PV24K_BDV	23.5 KD PROTEIN	23.5 KD PROTEIN	23.5 KD PROTEIN	TOMATO ASPERMY VIRUS	11-59	392-433	857-923					
PV25K_NPVAC	24 KD ANTIGEN	24 KD ANTIGEN	24 KD ANTIGEN	TURKEY HERPESVIRUS (STRAIN H2)	177-211							
PV28K_PLRV1	25 KD PROTEIN	25 KD PROTEIN	25 KD PROTEIN	BORNA DISEASE VIRUS	63-121	130-171						
PV28K_PLRVW	28 KD PROTEIN	28 KD PROTEIN	28 KD PROTEIN	AUTOGRAFA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	4-50							
PV290_ASELS	28 KD PROTEIN	28 KD PROTEIN	28 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)	116-150							
PV29K_PEBV	LIS 290 PROTEIN	LIS 290 PROTEIN	LIS 290 PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	116-150							
PV29K_TRVSY	29.6 KD PROTEIN	29.6 KD PROTEIN	29.6 KD PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN LIS57)	138-183							
PV29K_TRVTC	29 KD PROTEIN	29 KD PROTEIN	29 KD PROTEIN	EARLY BROWNING VIRUS	115-192							
PV2A_CCMV	2A PROTEIN	2A PROTEIN	2A PROTEIN	TOBACCO RATTLE VIRUS (STRAIN SYM), AND (STRAIN PSQ)	167-201							
PV2A_PSV1	2A PROTEIN	2A PROTEIN	2A PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	45-79							
PV2A_TAV	2A PROTEIN	2A PROTEIN	2A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	768-806							
PV20K_TRVTC	2A PROTEIN	2A PROTEIN	2A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	386-420							
PV260_ASF7	29.1 KD PROTEIN	29.1 KD PROTEIN	29.1 KD PROTEIN	PEANUT STUNT VIRUS (STRAIN J)	717-751							
PV263_ASF7	K362 PROTEIN	K362 PROTEIN	K362 PROTEIN	TOMATO ASPERMY VIRUS	722-756							
PV2A_CMVFN	3A PROTEIN	3A PROTEIN	3A PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	105-218							
PV2A_CMVQ	3A PROTEIN	3A PROTEIN	3A PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	53-87	151-192						
PV2A_CMVY	3A PROTEIN	3A PROTEIN	3A PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	54-102	161-212	290-324					
PV31K_ACLSV	3A PROTEIN	3A PROTEIN	3A PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	153-199							
				BROME MOSAIC VIRUS	11-45							
				CUCUMBER MOSAIC VIRUS (STRAIN FNY)	215-255							
				CUCUMBER MOSAIC VIRUS (STRAIN M)	215-255							
				CUCUMBER MOSAIC VIRUS (STRAIN Q)	215-255							
				CUCUMBER MOSAIC VIRUS (STRAIN Y)	215-255							

PCGENE	ALLMOTIS	ALL Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS								
PV31K_BWYVF	50.8 KD PROTEIN	APPLE CHLOROTIC LEAF SPOT VIRUS	72-106							
PV31K_BWYVG	51 KD PROTEIN	BEEET WESTERN YELLOW VIRUS (ISOLATE FL-1)	113-147	196-233	404-451					
PV38K_PLRV1	51 KD PROTEIN	BEEET WESTERN YELLOW VIRUS (ISOLATE GBI)	113-147	196-233	407-451					
PV38K_PLRVV	56 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)	47-81	438-472						
PV38K_BSNV	56 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	47-81	438-475						
PV66K_BWYVF	58 KD PROTEIN	BARLEY STRIPE MOSAIC VIRUS	128-162	323-371						
PV70K_PLRV1	66.2 KD PROTEIN	BEEET WESTERN YELLOW VIRUS (ISOLATE FL-1)	480-521							
PV70K_PLRVV	69.7 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)	98-144	514-548						
PV90K_AWYLE	69.7 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	98-144	409-443	514-548					
PVA04_VACCC	90 KD PROTEIN	ALFALFA MOSAIC VIRUS (STRAIN 425 / ISOLATE LEIDEN)	107-141							
PVA04_VACCV	PROTEIN A4	VACCINIA VIRUS (STRAIN COPENHAGEN)	32-66	231-275						
PVA04_VARV	PROTEIN A4	VACCINIA VIRUS (STRAIN WR)	32-66	231-275						
PVA05_VACCC	PROTEIN A4	VARIOLA VIRUS	22-66	210-265						
PVA05_VACCV	PROTEIN A6	VACCINIA VIRUS (STRAIN COPENHAGEN)	97-213	314-355						
PVA05_VARV	PROTEIN A6	VACCINIA VIRUS (STRAIN WR)	96-212	311-354						
PVA08_VACCC	PROTEIN A6	VARIOLA VIRUS	97-213	311-358						
PVA08_VARV	PROTEIN A8	VACCINIA VIRUS (STRAIN COPENHAGEN)	176-236							
PVA09_VACCC	PROTEIN A8	VARIOLA VIRUS	176-236							
PVA09_VARV	PROTEIN A9	VACCINIA VIRUS (STRAIN COPENHAGEN)	46-81							
PVA11_VACCC	PROTEIN A9	VARIOLA VIRUS	46-95							
PVA11_VARV	PROTEIN A11	VACCINIA VIRUS (STRAIN COPENHAGEN)	97-134	141-175	219-283					
PVA12_VACCC	PROTEIN A11	VARIOLA VIRUS	98-176	220-284						
PVA12_VARV	PROTEIN A12	VACCINIA VIRUS (STRAIN COPENHAGEN)	114-148							
PVA18_VACCC	PROTEIN A12	VARIOLA VIRUS	111-152							
PVA18_VACCV	56 KD ABORTIVE LATE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	433-467							
PVA18_VARV	56 KD ABORTIVE LATE PROTEIN	VACCINIA VIRUS (STRAIN WR)	307-341	433-467						
PVA20_VACCC	56 KD ABORTIVE LATE PROTEIN	VARIOLA VIRUS	307-341	433-467						
PVA20_VARV	PROTEIN A20	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-67							
PVA22_VACCC	PROTEIN A20	VARIOLA VIRUS	1-67							
PVA22_VARV	PROTEIN A22	VACCINIA VIRUS (STRAIN COPENHAGEN)	28-69							
PVA23_VACCC	PROTEIN A22	VARIOLA VIRUS	39-80							
PVA23_VARV	PROTEIN A23	VACCINIA VIRUS (STRAIN COPENHAGEN)	95-143	171-207	255-289	344-382				
PVA31_VACCV	PROTEIN A23	VARIOLA VIRUS	95-143	171-207	255-289	344-382				
PVA32_VACCC	PROTEIN A31	VARIOLA VIRUS	88-126							
PVA32_VARV	PROTEIN A32	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)								
PVA33_VACCV	PROTEIN A32	VARIOLA VIRUS	217-251							
PVA36_VACCV	PROTEIN A33	VARIOLA VIRUS	63-97							
PVA36_VARV	PROTEIN A36 PRECURSOR	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	26-67	109-155						
PVA37_VACCC	PROTEIN A37	VARIOLA VIRUS	26-67							
PVA37_VACCV	PROTEIN A37	VACCINIA VIRUS (STRAIN COPENHAGEN)	24-65							
PVA38_VACCC	PROTEIN A37	VACCINIA VIRUS (STRAIN WR)	24-65							
PVA38_VACCV	PROTEIN A38	VACCINIA VIRUS (STRAIN COPENHAGEN)	44-91							
PVA38_VARV	PROTEIN A38	VACCINIA VIRUS (STRAIN WR)	44-91							
PVA39_VACCC	PROTEIN A38	VARIOLA VIRUS	44-91							
PVA39_VACCV	PROTEIN A39	VACCINIA VIRUS (STRAIN COPENHAGEN)	37-71							
PVA46_VACCC	PROTEIN A39	VACCINIA VIRUS (STRAIN WR)	75-109							
PVA46_VACCV	PROTEIN A46	VACCINIA VIRUS (STRAIN COPENHAGEN)	81-126							
PVA46_VARV	PROTEIN A46	VACCINIA VIRUS (STRAIN WR)	81-126							
PVA47_VACCC	PROTEIN A46	VARIOLA VIRUS	81-126							
PVA47_VACCV	PROTEIN A47	VACCINIA VIRUS (STRAIN COPENHAGEN)	62-96	143-184						
PVA47_VARV	PROTEIN A47	VACCINIA VIRUS (STRAIN WR)	62-96	143-184						

PCGENE	ALLMOTHS	ALL Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PVA49_VACCC	PROTEIN A47	VARIOLA VIRUS	62-96	147-184						
PVA49_VACCV	PROTEIN A49	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-40	126-160						
PVA49_VARY	PROTEIN A49	VACCINIA VIRUS (STRAIN WR)	3-40	126-160						
PVA52_VACCC	PROTEIN A49	VARIOLA VIRUS	3-40	126-160						
PVA52_VACCV	PROTEIN A52	VACCINIA VIRUS (STRAIN COPENHAGEN)	91-132							
PVA57_VACCC	PROTEIN A52	VACCINIA VIRUS (STRAIN WR)	91-132							
PVA57_VACCV	GUANYLATE KINASE HOMOLOG	VACCINIA VIRUS (STRAIN COPENHAGEN)	134-168							
PVAL1_MSVK	GUANYLATE KINASE HOMOLOG	VACCINIA VIRUS (STRAIN WR)	134-168							
PVAL1_MSVN	ALI PROTEIN	MAIZE STREAK VIRUS (KENYAN ISOLATE)	220-269							
PVAL1_MSVS	ALI PROTEIN	MAIZE STREAK VIRUS (NIGERIAN ISOLATE)	228-262							
PVAL1_SLVC	ALI PROTEIN	MAIZE STREAK VIRUS (SOUTH-AFRICAN ISOLATE)	228-262							
PVAL1_TYDVA	ALI PROTEIN	SQUASH LEAF CURL VIRUS	117-151							
PVAL3_ABNVW	ALI PROTEIN	TOBACCO YELLOW DWARF VIRUS (STRAIN AUSTRALIA)	191-225							
PVAL3_BGNV	ALI PROTEIN	ABUTILON MOSAIC VIRUS (ISOLATE WEST INDIA)	44-78	83-124						
PVAL3_PYNV	ALI PROTEIN	BEAN GOLDEN MOSAIC VIRUS	44-78	83-124						
PVAL3_SLVC	ALI PROTEIN	POTATO YELLOW MOSAIC VIRUS (ISOLATE VENEZUELA)	30-78	87-121						
PVAL3_TGMV	ALI PROTEIN	SQUASH LEAF CURL VIRUS	46-80	91-125						
PVAL3_TGMV	ALI PROTEIN	TOMATO GOLDEN MOSAIC VIRUS	44-78							
PVAL3_TGMV	ALI PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	22-70	84-127						
PVAL3_TGMV	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN DPH)	22-70							
PVAL3_TGMV	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BBC)	22-70	91-127						
PVAL3_TGMV	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY153)	22-70	91-127						
PVAL3_TGMV	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN PV147)	22-70	91-127						
PVAL3_TGMV	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	22-70	91-130						
PVAL3_TGMV	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN W260)	36-70							
PVAL3_TGMV	APHID TRANSMISSION PROTEIN	CARNATION ETCHED RING VIRUS	99-138							
PVAL3_TGMV	APHID TRANSMISSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	108-142							
PVB04_VACCC	PROTEIN B3	VACCINIA VIRUS (STRAIN COPENHAGEN)	89-123	321-372	496-530					
PVB04_VACCV	PROTEIN B4	VACCINIA VIRUS (STRAIN WR)	89-123	321-372						
PVB04_VARY	PROTEIN B4	VARIOLA VIRUS	89-134	324-372	492-530					
PVB05_VACCC	PLAQUE-SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN LC16MO)	234-298							
PVB05_VACCC	PLAQUE-SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	234-298							
PVB05_VACCL	PLAQUE-SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN LISTER)	234-298							
PVB05_VACCV	PLAQUE-SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN WR)	234-298							
PVB07_VACCC	PROTEIN B7 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	28-62							
PVB08_VACCC	PROTEIN B8 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	26-60							
PVB08_VACCV	PROTEIN B8 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	26-60							
PVB18_VACCC	PROTEIN B18	VACCINIA VIRUS (STRAIN COPENHAGEN)	337-375	491-532						
PVB18_VACCV	PROTEIN B18	VACCINIA VIRUS (STRAIN WR)	337-375	491-532						
PVB18_VARY	PROTEIN B18	VARIOLA VIRUS	337-378	491-532						
PVB19_VACCC	PROTEIN B18	VACCINIA VIRUS (STRAIN COPENHAGEN)	87-121							
PVB19_VACCD	SURFACE ANTIGEN S PRECURSOR	VACCINIA VIRUS (STRAIN DAIREN I)	85-119							
PVB19_VACCV	SURFACE ANTIGEN S PRECURSOR	VACCINIA VIRUS (STRAIN WR)	85-119							
PVB30_VACCC	SURFACE ANTIGEN S PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-85							
PVB31_VACCV	PROTEIN B20	VACCINIA VIRUS (STRAIN WR)	61-95							
PVB31_VACCV	PROTEIN B21	BEAN GOLDEN MOSAIC VIRUS	159-193							
PVB31_VACCV	BL1 PROTEIN	SQUASH LEAF CURL VIRUS	159-193							
PVB31_VACCV	BL1 PROTEIN	TOMATO GOLDEN MOSAIC VIRUS	172-206							
PVB31_VACCV	BL1 PROTEIN	BEAN GOLDEN MOSAIC VIRUS	20-61							
PVB31_VACCV	BL1 PROTEIN	SQUASH LEAF CURL VIRUS	25-59							
PVB31_VACCV	BL1 PROTEIN	TOMATO GOLDEN MOSAIC VIRUS	37-82	262-302	391-442					
PVB31_VACCV	PROTEIN C2	VACCINIA VIRUS (STRAIN COPENHAGEN)								

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PVC04_SFVKA	PROTEIN C2	VACCINIA VIRUS (STRAIN WR)	37-82	262-302	391-442					
PVC04_VACCC	PROTEIN C4	SHOPE FIBROMA VIRUS (STRAIN KASZA)	175-223	374-408						
PVC04_VACCV	PROTEIN C4	VACCINIA VIRUS (STRAIN COPENHAGEN)	12-46							
PVC04_VARV	PROTEIN C4	VACCINIA VIRUS (STRAIN WR)	12-46							
PVC05_SFVKA	PROTEIN C4	VARIOLA VIRUS	12-46							
PVC05_VACCC	HYPOHETICAL PROTEIN C3	SHOPE FIBROMA VIRUS (STRAIN KASZA)	82-125							
PVC05_VACCV	PROTEIN C3	VACCINIA VIRUS (STRAIN COPENHAGEN)	31-68							
PVC05_VARV	PROTEIN C3	VACCINIA VIRUS (STRAIN WR)	31-68							
PVC08_SFVKA	PROTEIN C3	VARIOLA VIRUS	32-70	73-121						
PVC08_SFVKA	HYPOHETICAL PROTEIN C8	SHOPE FIBROMA VIRUS (STRAIN KASZA)	45-86							
PVC08_SFVKA	HYPOHETICAL PROTEIN C9	SHOPE FIBROMA VIRUS (STRAIN KASZA)	63-106							
PVC09_VACCC	PROTEIN C9	VACCINIA VIRUS (STRAIN COPENHAGEN)	82-116	168-226	289-325	575-612				
PVC10_VACCC	PROTEIN C9	VACCINIA VIRUS (STRAIN WR)	82-116	168-226	289-323	575-612				
PVC10_VACCV	PROTEIN C10	VACCINIA VIRUS (STRAIN COPENHAGEN)	136-180							
PVC10_VARV	PROTEIN C10	VACCINIA VIRUS (STRAIN WR)	136-176							
PVC12_SFVKA	PROTEIN C10	VARIOLA VIRUS	136-170							
PVC13_SFVKA	HYPOHETICAL PROTEIN C12	SHOPE FIBROMA VIRUS (STRAIN KASZA)	2-36							
PVC16_VACCC	PROTEIN C13	SHOPE FIBROMA VIRUS (STRAIN KASZA)	3-66	137-182	189-240					
PVC17_VACCC	PROTEIN C16/B22	VACCINIA VIRUS (STRAIN COPENHAGEN)	142-176							
PVC18_VACCC	PROTEIN C17/B23	VACCINIA VIRUS (STRAIN COPENHAGEN)	100-155	325-359						
PVC19_SFVKA	PROTEIN C18/B24	VACCINIA VIRUS (STRAIN COPENHAGEN)	40-98							
PVC19_VACCC	PROTEIN C19	SHOPE FIBROMA VIRUS (STRAIN KASZA)	56-97							
PVCAP_EBV	PROTEIN C19/B23	VACCINIA VIRUS (STRAIN COPENHAGEN)	218-252							
PVCAP_HCNVA	MAJOR CAPSID PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	150-184	670-709						
PVCAP_HSV11	MAJOR CAPSID PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	136-174	191-225	260-294					
PVCAP_HSV6U	MAJOR CAPSID PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	116-175	308-356						
PVCAP_HSV6B	MAJOR CAPSID PROTEIN	HERPES SIMPLEX VIRUS	136-174	230-266	311-382					
PVCAP_HSV5A	MAJOR CAPSID PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	150-184	304-352						
PVCAP_PRVIS	MAJOR CAPSID PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	479-520	673-714	755-799					
PVCAP_VZVD	MAJOR CAPSID PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN INDIANA S)	105-160	292-326						
PVC03_FOWP1	DNA-BINDING PROTEIN	AUTOGRAPIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	128-198	316-350						
PVD03_VACCC	92.6 KD PROTEIN	FOWLPOX VIRUS (STRAIN FP-1)	110-248							
PVD03_VACCV	PROTEIN D5	VACCINIA VIRUS (STRAIN COPENHAGEN)	145-181							
PVD03_VARV	PROTEIN D5	VACCINIA VIRUS (STRAIN WR)	123-157							
PVD09_VACCC	PROTEIN D9	VARIOLA VIRUS	123-157							
PVD09_VACCV	PROTEIN D9	VACCINIA VIRUS (STRAIN COPENHAGEN)	126-160							
PVD09_VARV	PROTEIN D9	VACCINIA VIRUS (STRAIN WR)	126-160							
PVD10_FOWP1	PROTEIN D9	VARIOLA VIRUS	126-160							
PVD10_SFVKA	PROTEIN D10	FOWLPOX VIRUS (STRAIN FP-1)	65-99	188-222						
PVD10_VARV	PROTEIN D10	SHOPE FIBROMA VIRUS (STRAIN KASZA)	4-52							
PVDBP_CAMVC	PROTEIN D10	VARIOLA VIRUS	67-105							
PVDBP_CAMVD	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	1-35							
PVDBP_CAMVE	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/H)	1-35							
PVDBP_CAMVN	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN B/C)	1-35							
PVDBP_CAMVS	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8133)	1-35							
PVE02_VACCC	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	1-35							
PVE02_VACCV	PROTEIN E2	VACCINIA VIRUS (STRAIN COPENHAGEN)	282-336							
PVE02_VARV	PROTEIN E2	VACCINIA VIRUS (STRAIN WR)	282-336							
PVE03_VACCC	PROTEIN E3	VARIOLA VIRUS	17-61							
PVE03_VACCV	PROTEIN E3	VACCINIA VIRUS (STRAIN COPENHAGEN)	17-61							
PVE03_VARV	PROTEIN E3	VACCINIA VIRUS (STRAIN WR)	17-61							

PCGENE	ALL MOTIS	ALL Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS	17-61							
PVE05_VACCC	PROTEIN E3	VARIOLA VIRUS	28-93							
PVE05_VACCD	PROTEIN E3	VACCINIA VIRUS (STRAIN COPENHAGEN)	38-103							
PVE05_VACCV	PROTEIN E3	VACCINIA VIRUS (STRAIN DAIREN I)	38-103							
PVE05_VARV	PROTEIN E3	VACCINIA VIRUS (STRAIN WR)	38-103							
PVE06_VACCC	PROTEIN E3	VARIOLA VIRUS	105-139	232-266						
PVE06_VACCV	PROTEIN E6	VACCINIA VIRUS (STRAIN COPENHAGEN)	105-139	232-266						
PVE06_VARV	PROTEIN E6	VACCINIA VIRUS (STRAIN WR)	105-139	232-266						
PVE18_NPVAC	PROTEIN E6	VARIOLA VIRUS	112-163	367-401						
PVE1_HPV1A	EARLY 18.5 KD PROTEIN	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	137-171							
PVE1_HPV31	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	56-90							
PVE1_HPV33	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	31-67	133-167						
PVE1_HPV35	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	56-90							
PVE1_HPV39	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	59-96							
PVE1_HPV41	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	55-89	312-346						
PVE1_HPV42	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	25-87							
PVE1_HPV48	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 42	33-67	119-174						
PVE1_HPV68	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	265-299							
PVE1_PAPVE	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 68	176-210							
PVE6_NPVAC	E1 PROTEIN	EUROPEAN ELK PAPILLOMAVIRUS	72-117							
PVE2_CRPVK	EARLY 25.5 KD PROTEIN	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	3-44							
PVE2_HPV05	PROBABLE E2 PROTEIN	COTTONTAIL RABBIT (SHORE) PAPILLOMAVIRUS (STRAIN KANS)	5-57	276-310	342-383	437-471				
PVE2_HPV08	PROBABLE E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5	5-55	148-182						
PVE2_HPV16	PROBABLE E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8	61-105	315-349						
PVE2_HPV18	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	65-100							
PVE2_HPV1A	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	3-37	159-193						
PVE2_HPV2A	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	13-47	159-193						
PVE2_HPV31	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 2A	61-105							
PVE2_HPV33	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	63-101	297-331						
PVE2_HPV35	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	62-106	158-192						
PVE2_HPV39	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	74-110	323-357						
PVE2_HPV41	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	6-54							
PVE2_HPV47	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	5-55	148-182						
PVE2_HPV51	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 47	154-191							
PVE2_HPV57	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	13-47	179-213						
PVE2_HPV58	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 57	2-36							
PVE2_PAPVD	PROBABLE E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	5-57							
PVE2_PAPVE	PROBABLE E2 PROTEIN	DEER PAPILLOMAVIRUS	107-141							
PVE2_PCPV1	PROBABLE E2 PROTEIN	EUROPEAN ELK PAPILLOMAVIRUS	113-150							
PVE2_RHPV1	E2 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	318-361							
PVE39_NPVAC	E2 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1	62-106	307-341						
PVE39_NPVOP	EARLY 39 KD PROTEIN	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	20-57							
PVE4_HPV18	EARLY 39 KD PROTEIN	ORGANIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	119-156							
PVE4_HPV41	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	42-86							
PVE3_HPV58	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	63-97							
PVENF_GVTN	PROBABLE E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 59	3-40	96-130						
PVENF_BEV	VIRAL ENHANCING FACTOR (VEF) (104 KD GLYCOP	TRICHOPLUSIA NI GRANULOSIS VIRUS (TNGV)	681-719							
PVENV_DHV1	ENVELOPE PROTEIN	BERNE VIRUS (BEV)	195-229							
PVENV_MCV1	ENVELOPE GLYCOPROTEIN PRECURSOR	DIORI VIRUS (STRAIN INDIAN/131/61) (DHO)	318-366							
PVENV_MCV2	MAJOR ENVELOPE PROTEIN (43 KD PROTEIN) (P43K)	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 1 (MCV1)	232-286							
PVENV_THOGV	MAJOR ENVELOPE PROTEIN (43 KD PROTEIN) (P43K)	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 2 (MCV2)	232-286							
PVENV_VACCC	ENVELOPE GLYCOPROTEIN PRECURSOR (SURFACE	THOGOTO VIRUS (THO)	313-354							

PCGENE	ALLNOTIS	All Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8
FILENAME	PROTEIN	VIRUS								
PVENV_VACCP	MAJOR ENVELOPE PROTEIN (37 KD PROTEIN) (P73K)	VACCINIA VIRUS (STRAIN COPENHAGEN)	257-295							
PVENV_VACCP	MAJOR ENVELOPE PROTEIN (37 KD PROTEIN) (P73K)	VACCINIA VIRUS (STRAIN IIID-1)	257-295							
PVENV_VACCV	MAJOR ENVELOPE PROTEIN (37 KD PROTEIN) (P73K)	VACCINIA VIRUS (STRAIN L-IVP)	257-295							
PVENV_VARV	MAJOR ENVELOPE PROTEIN (37 KD PROTEIN) (P73K)	VACCINIA VIRUS (STRAIN WR)	257-295							
PVETS_SPVAC	MAJOR ENVELOPE PROTEIN (37 KD PROTEIN) (P73K)	VARIOLA VIRUS	257-295							
PVF01_VACCC	ECOR-1 SITE PROTEIN ETS	AUTOGRAPHA CALIFORNICA NUCLEAR POLYDIOSIS VIRUS (1-53)								
PVF01_VACCV	PROTEIN F1	VACCINIA VIRUS (STRAIN COPENHAGEN), AND VACCINIA VIRUS	46-80							
PVF01_VACCC	PROTEIN F1 (FRAGMENT)	VACCINIA VIRUS (STRAIN COPENHAGEN)	46-80							
PVF01_VACCV	PROTEIN F3	VACCINIA VIRUS (STRAIN COPENHAGEN)	71-110							
PVF01_VACCC	PROTEIN F3	VACCINIA VIRUS (STRAIN COPENHAGEN)	71-110							
PVF05_VACCP	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	81-129							
PVF05_VACCV	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN L-IVP)	81-129							
PVF05_VACCV	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN WR)	81-129							
PVF06_VARV	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VARIOLA VIRUS	81-122							
PVF11_VACCC	PROTEIN F6	VARIOLA VIRUS	8-44							
PVF11_VACCP	PROTEIN F11	VACCINIA VIRUS (STRAIN COPENHAGEN)	217-258							
PVF11_VARV	PROTEIN F11	VACCINIA VIRUS (STRAIN L-IVP)	213-254							
PVF12_VACCC	PROTEIN F11	VARIOLA VIRUS	41-75							
PVF12_VACCV	PROTEIN F12	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-67							
PVF12_VARV	PROTEIN F12	VACCINIA VIRUS (STRAIN L-IVP)	1-67							
PVF16_VACCC	PROTEIN F12	VARIOLA VIRUS	1-67							
PVF16_VACCP	PROTEIN F16	VACCINIA VIRUS (STRAIN COPENHAGEN)	155-194							
PVF16_VARV	PROTEIN F16	VACCINIA VIRUS (STRAIN L-IVP)	155-194							
PVPF1_FOWPV	PROTEIN F16	VARIOLA VIRUS	1-43							
PVPF4_FOWPV	PROTEIN FP3	FOWLPOX VIRUS	139-173							
PVPF7_FOWPV	PROTEIN FP4	FOWLPOX VIRUS	23-57							
PVPF7_FOWPI	PROTEIN FP7	FOWLPOX VIRUS (STRAIN FP-1)	77-111							
PVPF8_FOWPI	FPLEFT PROTEIN (FRAGMENT)	VACCINIA VIRUS (STRAIN COPENHAGEN)	30-64							
PVPUS_VACCV	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	30-64							
PVG01_HSV11	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	30-64							
PVG01_VACCC	HYPOTHETICAL GENE 1 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	271-306							
PVG01_VACCV	PROTEIN G1	VACCINIA VIRUS (STRAIN COPENHAGEN)	301-339							
PVG01_VARV	PROTEIN G1 (FRAGMENT)	VACCINIA VIRUS (STRAIN WR)	240-278							
PVG03_HSVB	PROTEIN G1	VARIOLA VIRUS	301-339							
PVG03_HSVK	GENE 3 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	143-177							
PVG03_VARV	GENE 3 PROTEIN (ORF L1)	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A) (EHV-1)	143-177							
PVG03_VACCC	PROTEIN G3	VARIOLA VIRUS	64-98							
PVG05_VARV	PROTEIN G3	VACCINIA VIRUS (STRAIN COPENHAGEN)	117-158							
PVG06_HSV11	PROTEIN G5	VARIOLA VIRUS	117-158							
PVG07_HSV11	HYPOTHETICAL GENE 6 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	61-109							
PVG07_VACCC	HYPOTHETICAL GENE 7 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	69-103							
PVG07_VARV	PROTEIN G7	VARIOLA VIRUS (STRAIN COPENHAGEN)	114-175							
PVG09_VACCC	PROTEIN G7	VARIOLA VIRUS	114-175							
PVG09_VACCV	PROTEIN F1 (PROTEIN G9)	VACCINIA VIRUS (STRAIN COPENHAGEN)	304-338							
PVG09_VARV	PROTEIN F1 (PROTEIN G9) (FRAGMENT)	VACCINIA VIRUS (STRAIN WR)	304-338							
PVG10_HSV11	PROTEIN F1 (PROTEIN G9)	VARIOLA VIRUS	304-338							
PVG12_SPVIR	HYPOTHETICAL GENE 10 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	61-97							
PVG16_HSVSA	GENE 12 PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	11-45							
PVG17_HSV11	HYPOTHETICAL GENE 16 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	58-95							
PVG18_HSV11	HYPOTHETICAL GENE 17 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	92-129							
PVG18_ANEPV	HYPOTHETICAL GENE 17 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	174-208							
PVG1_SPVIR	GIL PROTEIN	ANISACTA MOOREI ENTOMOPOTXVIRUS (ANEPV)	407-441							

PCGENE	ALLNOTIS	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	SPYROPLASMA VIRUS SPV1-R8A2 B	136-170	256-297	320-357					
PVG1_SPV4	CAPSID PROTEIN	SPYROPLASMA VIRUS 4 (SPV4)	287-321							
PVG2_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	117-158	437-629	660-892	899-1055				
PVG34_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	7-72	74-108						
PVG27_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	164-219							
PVG28_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	253-290							
PVG2R_ANEPV		ANISACTA MOOREI ENTOMOPHOXVIRUS (ANIEPV)	29-63	184-218						
PVG2_SPVIR		SPYROPLASMA VIRUS SPV1-R8A2 B	222-236	285-316						
PVG3_SPV4	GENE 2 PROTEIN	SPYROPLASMA VIRUS 4 (SPV4)	255-310							
PVG33_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	149-183							
PVG34_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	345-379							
PVG35_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	17-90							
PVG37_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	435-472							
PVG38_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	84-118							
PVG39_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	124-158	266-300						
PVG1_SPVIR		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	8-49	162-196	203-244					
PVG3_SPV4	GENE 3 PROTEIN	SPYROPLASMA VIRUS 4 (SPV4)	6-54	87-121						
PVG41_HSVII	GENE 3 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	116-150	262-296	324-361	643-677				
PVG45_HSVSA		HERPESVIRUS SAIMIRI (STRAIN 11)	121-162							
PVG46_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	45-86	939-1078	1251-1321					
PVG48_HSVII	PROBABLE MAJOR GLYCOPROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	169-207							
PVG48_HSVSA		HERPESVIRUS SAIMIRI (STRAIN 11)	360-417	611-666	733-767					
PVG49_HSVSA		HERPESVIRUS SAIMIRI (STRAIN 11)	68-102							
PVG4R_ANEPV		ANISACTA MOOREI ENTOMOPHOXVIRUS (ANIEPV)	4-38							
PVG4_SPV4	GAR PROTEIN	SPYROPLASMA VIRUS 4 (SPV4)	89-130							
PVG51_HSVII	GENE 4 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	34-73	89-123						
PVG51_HSVSA		HERPESVIRUS SAIMIRI (STRAIN 11)	29-70	123-157	162-196					
PVG53_HSVII	GENE 51 GLYCOPROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	67-127							
PVG54_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	355-396							
PVG55_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	101-135							
PVG55_HSVSA		HERPESVIRUS SAIMIRI (STRAIN 11)	126-178							
PVG56_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	151-192	578-612	644-678	750-784	846-880	1111-1145		
PVG59_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	10-72	89-123						
PVG59_HSVSA		HERPESVIRUS SAIMIRI (STRAIN 11)	169-209							
PVG3_SPVIR	GENE 59 PROTEIN	SPYROPLASMA VIRUS SPV1-R8A2 B	65-103							
PVG61_HSVII	GENE 5 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	265-299							
PVG63_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	546-584							
PVG65_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	805-839	1213-1254						
PVG66_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	154-188	328-410						
PVG67_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	379-413	501-546	1321-1369	1478-1541				
PVG68_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	245-288							
PVG72_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	447-484	723-757	912-949					
PVG75_HSVII		ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	271-305	388-422						
PVG8_SPVIR		SPYROPLASMA VIRUS SPV1-R8A2 B	5-51							
PVG71_IBVB	GENE 8 PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE) (1)	142-179	1213-1267	2119-2156	3388-3424	3475-3513	3517-3556	3761-3795	
PVG1_HCMVA	F1 PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)								
PVG1_CVPR8	GLYCOPROTEIN H301 PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN 86/137004 / DR1)	212-257							
PVG2_CVBF	E1 GLYCOPROTEIN PRECURSOR (MATRIX GLYCOPROTEIN)	BOVINE CORONA VIRUS (STRAIN F15)	642-676	850-885	993-1088	1263-1305				
PVG2_CVBL9	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPROTEIN)	BOVINE CORONA VIRUS (STRAIN L9)	850-885	993-1109	1263-1305					
PVG2_CVBL5	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPROTEIN)	BOVINE CORONA VIRUS (STRAIN LY-138)	642-676	993-1109	1263-1305					
PVG2_CVBM	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPROTEIN)	BOVINE CORONA VIRUS (STRAIN MEBUS)	642-676	850-885	993-1109	1263-1305				
PVG2_CVBBQ	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPROTEIN)	BOVINE CORONA VIRUS (STRAIN QUEBEC)	642-676	850-885	993-1109	1263-1305				
PVG2_CVBV	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPROTEIN)	BOVINE CORONA VIRUS (STRAIN QUEBEC)	642-676	850-885	993-1109	1263-1305				

PCGENE	ALLNOTES	ALL Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS	63-97							
PVGLF_PVIF	SECRETORY GLYCOPROTEIN GP170S PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN MD5)								
PVGLF_VZVD	GLYCOPROTEIN GIII PRECURSOR	PSEUDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKE)	183-235							
PVGLF_VZVS	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	280-321							
PVGLD_HSVEA	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN SCOTT)	280-321							
PVGLD_HSYEB	GLYCOPROTEIN D PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1)	89-123							
PVGLD_HSYEK	GLYCOPROTEIN D PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AD4P) AND (STRAIN KEN)	139-173							
PVGLF_HSV11	GLYCOPROTEIN D PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	139-173							
PVGLF_HSV2	GLYCOPROTEIN E PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	111-145							
PVGLF_BRSVA	GLYCOPROTEIN E PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2)	111-159							
PVGLF_BRSVC	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	146-202	504-545						
PVGLF_BRSVR	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGE)	146-202	267-302	506-547					
PVGLF_CDVO	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN RB94)	146-202	267-302	506-554					
PVGLF_HRSVI	FUSION GLYCOPROTEIN PRECURSOR	CANINE DISTEMPER VIRUS (STRAIN ONDERSTPOORT)	228-297	340-381	568-602					
PVGLF_HRSVL	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN A2)	116-202	267-302	506-549					
PVGLF_HRSVR	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	116-202	267-302	506-549					
PVGLF_MEASE	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN A2)	116-202	267-302	506-547					
PVGLF_NEAST	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSS-2)	116-202	267-302	506-549					
PVGLF_MEASY	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN EDMONSTON) AND (STRAIN HALLE)	116-184	228-269	452-500					
PVGLF_MUNIP1	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN YAMAGATA-1)	116-184	228-269	452-500					
PVGLF_MUNIP2	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL-1)	20-54	103-179	235-272	447-502				
PVGLF_MUNIP3	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	20-54	103-179	235-272	447-502				
PVGLF_MUNIP4	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN RW)	20-54	103-179	235-272	447-502				
PVGLF_NDVA	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL)	20-54	103-179	235-272	447-502				
PVGLF_NDVB	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/23)	117-182	231-272	426-512					
PVGLF_NDVH3	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C45)	122-182	231-272	426-517					
PVGLF_NDVH4	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN HER03)	117-182	231-272	426-517					
PVGLF_NDVI	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN BI-HITCHNER/47)	122-182	231-272	426-517					
PVGLF_NDVL	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN ITALIEN/45)	133-182	238-272	426-517					
PVGLF_NDVM	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN LA5/46)	133-182	231-272	426-517					
PVGLF_NDVQ	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN MIYADARA/51)	117-182	231-272	426-512					
PVGLF_NDVT	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN QUEENSLAND/66)	122-182	231-272	433-512					
PVGLF_NDVG	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS)	117-182	231-272	426-517					
PVGLF_NDVU	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS G B /48)	122-182	231-272	426-517					
PVGLF_PHODV	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN ULSTER/67)	122-182	231-272	426-512					
PVGLF_PIIHC	FUSION GLYCOPROTEIN PRECURSOR	PHOCINE DISTEMPER VIRUS	29-63	197-266	309-350	533-581				
PVGLF_PIIH	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	123-174	207-267	459-503					
PVGLF_PIIHG	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS	93-183	477-528						
PVGLF_PIIHJ	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN GREER)	93-183	477-528						
PVGLF_PIIJB	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA)	93-185	477-528						
PVGLF_PIIHA	FUSION GLYCOPROTEIN PRECURSOR	BOVINE PARAINFLUENZA 3 VIRUS	117-182	207-241	456-518					
PVGLF_RUNDX	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	117-182	207-241	462-532					
PVGLF_RUNDL	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN KABETE O)	112-180	224-265	448-493					
PVGLF_SENDS	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN L)	112-180	224-265	448-506					
PVGLF_SENDF	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN Z / HOST MUTANTS)	127-188	211-271	463-533					
PVGLF_SENDH	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN FUSHIMI)	127-188	211-271	463-533					
PVGLF_SENDJ	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN HARRIS)	127-188	218-271	463-533					
PVGLF_SENDZ	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN HV)	127-188	211-271	463-533					
PVGLF_SVA1	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN Z)	127-188	211-271	463-533					
PVGLF_SVS	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 41	96-186	454-508						
PVGLF_TRIV	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 5 (STRAIN W3)	103-171	241-275	451-487					
PVGLF_BEV	FUSION GLYCOPROTEIN PRECURSOR	TURKEY RHINOTRACHEITIS VIRUS	105-161	190-224	457-498					

PCGENE	ALLNOTIS	FILENAME	PROTEIN	ALLNOTIS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PVGLG_BRSVC	SPIKE GLYCOPROTEIN PRECURSOR	PVGLG_BRSVC	SPIKE GLYCOPROTEIN PRECURSOR	BOVINE EPHEMERAL FEVER VIRUS	506-612							
PVGLG_HRSV1	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV1	MAJOR SURFACE GLYCOPROTEIN G	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGE)	30-70	104-138						
PVGLG_HRSV2	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV2	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN)	30-81							
PVGLG_HRSV3	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV3	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSD642)	30-85							
PVGLG_HRSV4	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV4	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSD1734)	30-85							
PVGLG_HRSV5	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV5	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSD5857)	30-107							
PVGLG_HRSV6	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV6	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB6190)	30-85							
PVGLG_HRSV7	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV7	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB6236)	30-85							
PVGLG_HRSV8	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV8	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB6614)	30-85							
PVGLG_HRSV9	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV9	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN)	30-81							
PVGLG_HRSV10	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV10	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	30-67							
PVGLG_HRSV11	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV11	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN)	23-85							
PVGLG_HRSV12	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV12	MAJOR SURFACE GLYCOPROTEIN G	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	271-305							
PVGLG_HRSV13	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV13	MAJOR SURFACE GLYCOPROTEIN G	SIGNA VIRUS	344-381	464-498						
PVGLG_HRSV14	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV14	MAJOR SURFACE GLYCOPROTEIN G	SONCHUS YELLOW NET VIRUS	488-523							
PVGLG_HRSV15	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV15	MAJOR SURFACE GLYCOPROTEIN G	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN 07-71)	363-397							
PVGLG_HRSV16	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV16	MAJOR SURFACE GLYCOPROTEIN G	VEICULAR STONATITIS VIRUS (SEROTYPE INDIANA / STRAIN G)	476-510							
PVGLG_HRSV17	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV17	MAJOR SURFACE GLYCOPROTEIN G	EPSTEIN-BARR VIRUS (STRAIN B95-8)	53-87	160-201	336-380	653-694				
PVGLG_HRSV18	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV18	MAJOR SURFACE GLYCOPROTEIN G	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	103-137	270-311	693-741					
PVGLG_HRSV19	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV19	MAJOR SURFACE GLYCOPROTEIN G	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	102-136	692-740						
PVGLG_HRSV20	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV20	MAJOR SURFACE GLYCOPROTEIN G	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	447-481							
PVGLG_HRSV21	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV21	MAJOR SURFACE GLYCOPROTEIN G	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN HEN)	447-481							
PVGLG_HRSV22	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV22	MAJOR SURFACE GLYCOPROTEIN G	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN G5)	337-406							
PVGLG_HRSV23	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV23	MAJOR SURFACE GLYCOPROTEIN G	BOVINE HERPESVIRUS TYPE 1 (STRAIN COOPER)	364-416							
PVGLG_HRSV24	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV24	MAJOR SURFACE GLYCOPROTEIN G	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	334-379	414-455						
PVGLG_HRSV25	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV25	MAJOR SURFACE GLYCOPROTEIN G	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) AND (ISOLATE HV)	327-372	407-448						
PVGLG_HRSV26	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV26	MAJOR SURFACE GLYCOPROTEIN G	HERPESVIRUS SAIMIRI (STRAIN 11)	32-66	374-453	664-712					
PVGLG_HRSV27	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV27	MAJOR SURFACE GLYCOPROTEIN G	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	440-474							
PVGLG_HRSV28	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV28	MAJOR SURFACE GLYCOPROTEIN G	PSUDORABIES VIRUS (STRAIN KAPLAN)	226-260							
PVGLG_HRSV29	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV29	MAJOR SURFACE GLYCOPROTEIN G	PSUDORABIES VIRUS (STRAIN NIA-3)	226-260							
PVGLG_HRSV30	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV30	MAJOR SURFACE GLYCOPROTEIN G	PSUDORABIES VIRUS (STRAIN RICE)	226-260							
PVGLG_HRSV31	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV31	MAJOR SURFACE GLYCOPROTEIN G	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	455-506							
PVGLG_HRSV32	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV32	MAJOR SURFACE GLYCOPROTEIN G	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	47-111	323-359						
PVGLG_HRSV33	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV33	MAJOR SURFACE GLYCOPROTEIN G	BUNYA VIRUS GERMISTON	512-567	685-737	1228-1262					
PVGLG_HRSV34	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV34	MAJOR SURFACE GLYCOPROTEIN G	BUNYA VIRUS LA CROSSE (ISOLATE L74)	643-677	916-950						
PVGLG_HRSV35	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV35	MAJOR SURFACE GLYCOPROTEIN G	BUNYA VIRUS SNOWSHOE HARE	643-677							
PVGLG_HRSV36	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV36	MAJOR SURFACE GLYCOPROTEIN G	BUNYA VIRUS SNOWSHOE HARE	340-374	504-563	905-939					
PVGLG_HRSV37	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV37	MAJOR SURFACE GLYCOPROTEIN G	DUGBE VIRUS	937-989	1235-1300						
PVGLG_HRSV38	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV38	MAJOR SURFACE GLYCOPROTEIN G	HANTAN VIRUS (STRAIN B-1)	693-727							
PVGLG_HRSV39	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV39	MAJOR SURFACE GLYCOPROTEIN G	HANTAN VIRUS (STRAIN HOJO)	72-106							
PVGLG_HRSV40	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV40	MAJOR SURFACE GLYCOPROTEIN G	HANTAN VIRUS (STRAIN LEE)	72-106							
PVGLG_HRSV41	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV41	MAJOR SURFACE GLYCOPROTEIN G	HANTAN VIRUS (STRAIN 76-118)	72-106							
PVGLG_HRSV42	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV42	MAJOR SURFACE GLYCOPROTEIN G	IMPATIENS NECROTIC SPOT VIRUS	1067-1101							
PVGLG_HRSV43	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV43	MAJOR SURFACE GLYCOPROTEIN G	PROSPECT HILL VIRUS	73-111							
PVGLG_HRSV44	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV44	MAJOR SURFACE GLYCOPROTEIN G	PUNTA TORO PHLEBOVIRUS	149-251							
PVGLG_HRSV45	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV45	MAJOR SURFACE GLYCOPROTEIN G	SEUL VIRUS (STRAIN 80-39)	693-727							
PVGLG_HRSV46	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV46	MAJOR SURFACE GLYCOPROTEIN G	SEUL VIRUS (STRAIN R22)	694-728							
PVGLG_HRSV47	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV47	MAJOR SURFACE GLYCOPROTEIN G	SEUL VIRUS (STRAIN SR-11)	693-730							
PVGLG_HRSV48	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV48	MAJOR SURFACE GLYCOPROTEIN G	BOVINE EPHEMERAL FEVER VIRUS	377-414	513-569						
PVGLG_HRSV49	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV49	MAJOR SURFACE GLYCOPROTEIN G	BERNE VIRUS	43-82	90-124	622-656	1128-1236				
PVGLG_HRSV50	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV50	MAJOR SURFACE GLYCOPROTEIN G	PSUDORABIES VIRUS (STRAIN RICE)	420-461							
PVGLG_HRSV51	MAJOR SURFACE GLYCOPROTEIN G	PVGLG_HRSV51	MAJOR SURFACE GLYCOPROTEIN G	JUNIN ARENAVIRUS	301-349							

PCGNE	ALLNOTIS	ALL Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PVGLY_LASSI	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LASSA VIRUS (STRAIN GA391)	317-360	388-422						
PVGLY_LYCVB	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LASSA VIRUS (STRAIN JOSIAH)	318-361	389-423						
PVGLY_LYCVW	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LYMPHOCTIC CHORIONENINGITIS VIRUS (STRAIN ARISTON)	333-367	395-432						
PVGLY_MDEI	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LYMPHOCTIC CHORIONENINGITIS VIRUS (STRAIN WE)	124-158	333-367	395-432					
PVGLY_PIARV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	MOPEIA VIRUS	316-359							
PVGLY_TACV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	PICHINDE ARENAVIRUS	334-375							
PVGLY_TACV3	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS	315-363							
PVGLY_TACV7	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN V5)	303-351	382-416						
PVGLY_TACV7	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN V7)	302-350	381-415						
PVGNB_CPNV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN TRVL 11598)	303-351	382-416						
PVGNM_CPNV	GENOME POLYPROTEIN B	COWPEA MOSAIC VIRUS	835-869							
PVGNM_CPSNV	GENOME POLYPROTEIN M	COWPEA MOSAIC VIRUS	160-201							
PVGNM_RCMV	GENOME POLYPROTEIN M	COWPEA SEVERE MOSAIC VIRUS (STRAIN DG)	192-226	758-792	874-915					
PVGP_EBV	GENOME POLYPROTEIN M	RED CLOVER MOTTLE VIRUS	837-871	912-946						
PVGP_EBOV	PROBABLE MEMBRANE ANTIGEN GP85	EPSTEIN-BARR VIRUS (STRAIN B95-8)	94-149							
PVGP_MABV1	STRUCTURAL GLYCOPROTEIN PRECURSOR	EBOLA VIRUS	280-321	334-368	469-503					
PVGP_MABV7	STRUCTURAL GLYCOPROTEIN PRECURSOR	MARBURG VIRUS (STRAIN MUSOKE)	562-596							
PVH02_VACCC	STRUCTURAL GLYCOPROTEIN PRECURSOR	MARBURG VIRUS (STRAIN POPP)	562-596							
PVH02_VACCV	LATE PROTEIN H2	VACCINIA VIRUS (STRAIN COPENHAGEN)	58-92							
PVH02_VARV	LATE PROTEIN H2	VACCINIA VIRUS (STRAIN WR)	58-94							
PVH05_VACCC	PROTEIN H5	VARIOLA VIRUS	58-92							
PVH05_VACCV	PROTEIN H5	VACCINIA VIRUS (STRAIN COPENHAGEN)	118-185							
PVH05_VARV	PROTEIN H5	VACCINIA VIRUS (STRAIN WR)	118-185							
PVHEL_LSV	PROTEIN H5	VARIOLA VIRUS	136-203							
PVHRP_VACCC	PROBABLE HELICASE	LILY SYMPTOMLESS VIRUS	126-160							
PVHRP_VACCV	HOST RANGE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	216-279							
PV103_VACCC	HOST RANGE PROTEIN	VACCINIA VIRUS (STRAIN WR)	216-279							
PV103_VACCV	PROTEIN I3	VACCINIA VIRUS (STRAIN COPENHAGEN)	150-193	210-244						
PV103_VARV	PROTEIN I3	VACCINIA VIRUS (STRAIN WR)	150-193	210-244						
PV106_VACCC	PROTEIN I3	VARIOLA VIRUS	150-193	210-244						
PV106_VACCV	PROTEIN I6	VACCINIA VIRUS (STRAIN WR)	58-92							
PV107_VARV	PROTEIN I6	VARIOLA VIRUS	58-92							
PV108_VACCC	PROTEIN I7	VARIOLA VIRUS	373-407							
PV108_VACCV	PUTATIVE RNA HELICASE I8	VACCINIA VIRUS (STRAIN COPENHAGEN)	548-589							
PV108_VARV	PUTATIVE RNA HELICASE I8	VACCINIA VIRUS (STRAIN WR)	548-589							
PV1E1_HCMVA	PUTATIVE RNA HELICASE I8	VARIOLA VIRUS	548-589							
PV1E1_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HUMAN CYTOMEGALOVIRUS (STRAIN ADI69)	78-112	171-205	368-402	416-450				
PV1E2_NPVOP	IMMEDIATE-EARLY PROTEIN I	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	78-112	171-205	368-402	416-450				
PV1E2_NPVAC	IMMEDIATE-EARLY PROTEIN I2-2	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	244-297							
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	ORGANIA PSEUDOTSUGATA MULTICAPSID POLYTHEDROSIS VIRUS	94-128	305-395						
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	AUTOGRAPIA CALIFORNICA NUCLEAR POLYTHEDROSIS VIRUS	277-407							
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	23-92							
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	53-94							
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	32-80							
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV25F2 ISOLATE)	1-42	62-96						
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 BRU HXB2.PV)	1-42	62-96						
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH5 ISOLATE)	1-42	62-96						
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	1-42	62-96						
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRCF ISOLATE)	1-42	62-96						
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	2-36	62-96						
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	1-42	62-96						
PV1E2_NPVAC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-3 ISOL)	1-42	62-96						

PGCENE	ALLIOTIS	ALL Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PVIF_HVIND	VIRION INFECTION FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE NIT-A)	1-42	62-96						
PVIF_HVIOY	VIRION INFECTION FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	1-42	62-96						
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OVI ISOLATE)	1-42	62-96						
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RFLAT ISOLATE)	1-42	62-96						
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN)	1-42	62-96						
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 6 ISOLATE)	1-42	62-96						
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7)	147-195							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NII-2)	152-193							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	163-197							
PVIF_HVIRH	VIRION INFECTION FACTOR	OVINE LENTIVIRUS (STRAIN SA-ONVY)	44-114							
PVIF_HVIRH	VIRION INFECTION FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (AGN155 ISOLATE)	2-58	150-202						
PVIF_HVIRH	VIRION INFECTION FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (AGN155 ISOLATE)	17-58							
PVIF_HVIRH	VIRION INFECTION FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (CLONE CR12-36)	143-187							
PVIF_HVIRH	VIRION INFECTION FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	20-58	150-195						
PVIF_HVIRH	VIRION INFECTION FACTOR	CHIMPANZEE IMMUNODEFICIENCY VIRUS	1-42							
PVIF_HVIRH	VIRION INFECTION FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	1-39							
PVIF_HVIRH	VIRION INFECTION FACTOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	85-134							
PVIF_HVIRH	VIRION INFECTION FACTOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	148-182	335-369						
PVIF_HVIRH	VIRION INFECTION FACTOR	HERPES VIRUS SAIMIRI (STRAIN 11)	80-129							
PVIF_HVIRH	VIRION INFECTION FACTOR	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	107-151	155-189	267-301					
PVIF_HVIRH	VIRION INFECTION FACTOR	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	85-130	138-172						
PVIF_HVIRH	VIRION INFECTION FACTOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	22-56							
PVIF_HVIRH	VIRION INFECTION FACTOR	VACCINIA VIRUS (STRAIN WR)	22-56							
PVIF_HVIRH	VIRION INFECTION FACTOR	VARIOLA VIRUS	22-56							
PVIF_HVIRH	VIRION INFECTION FACTOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	38-82							
PVIF_HVIRH	VIRION INFECTION FACTOR	VACCINIA VIRUS (STRAIN WR)	38-82							
PVIF_HVIRH	VIRION INFECTION FACTOR	VACCINIA VIRUS (STRAIN WR, AND (STRAIN COPENHAGEN)	115-149							
PVIF_HVIRH	VIRION INFECTION FACTOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	47-81							
PVIF_HVIRH	VIRION INFECTION FACTOR	VACCINIA VIRUS (STRAIN WR)	47-92							
PVIF_HVIRH	VIRION INFECTION FACTOR	VARIOLA VIRUS	47-81							
PVIF_HVIRH	VIRION INFECTION FACTOR	COTTONTAIL RABBIT (SHOPE) PAPILLOMA VIRUS (STRAIN KANS)	261-295	331-383						
PVIF_HVIRH	VIRION INFECTION FACTOR	AVIAN PAPILLOMA VIRUS FPV-L	38-90							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 5	355-393							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 8	354-392							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 1A	345-379							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 47	353-391							
PVIF_HVIRH	VIRION INFECTION FACTOR	DEER PAPILLOMA VIRUS	23-57							
PVIF_HVIRH	VIRION INFECTION FACTOR	REOVIRUS (TYPE 3 / STRAIN DEARING)	94-142	437-471						
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 8	341-375							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 16	354-392							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 1A	295-333							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 31	345-379							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 35	288-326							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 47	292-333							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 58	341-375							
PVIF_HVIRH	VIRION INFECTION FACTOR	HUMAN PAPILLOMA VIRUS TYPE 58	291-327							
PVIF_HVIRH	VIRION INFECTION FACTOR	REOVIRUS (TYPE 3 / STRAIN DEARING)	341-375							
PVIF_HVIRH	VIRION INFECTION FACTOR	REOVIRUS (TYPE 2 / STRAIN D5/JONES)	107-148	1112-1178						
PVIF_HVIRH	VIRION INFECTION FACTOR	REOVIRUS (TYPE 1 / STRAIN LANG)	1112-1178							
PVIF_HVIRH	VIRION INFECTION FACTOR	REOVIRUS (TYPE 1 / STRAIN LANG)	107-148	331-365	1112-1178					
PVIF_HVIRH	VIRION INFECTION FACTOR	TIPOLA IRIDESCENT VIRUS	146-180	198-226						

PCGENE	ALLNOTIS	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PVNS2_IAP0W	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN AFORT MONNOUTU/147)	14-93							
PVNS2_IAP0V	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN AFORT WARREN/50)	14-93							
PVNS2_IAP02	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN AFOWL PLAGUE VIRUS/ROSTOCK)	14-93							
PVNS2_IAP0N	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN ALENINGRAD/134/17/57)	14-93							
PVNS2_IAP06	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN ALENINGRAD/54/1)	14-93							
PVNS2_IAP08	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN AMALLARD/ALBERT/88/76)	14-79							
PVNS2_IAP0N	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN AMALLARD/ALBERT/82/78)	14-79							
PVNS2_IAP0O	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN AMALLARD/NEW YORK/67/50/78)	14-93							
PVNS2_IAP0N	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN AMALLARD/NEW YORK/68/74/78)	14-93							
PVNS2_IAP0I	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN AMYNAH/IANEDA-THAI/76)	11-90							
PVNS2_IAP0I	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERT/11/97/9)	14-93							
PVNS2_IAP0E	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERT/12/17/9)	14-79							
PVNS2_IAP0E	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERT/268/78)	14-93							
PVNS2_IAP0B	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN APUEBTO RICO/83/4)	14-93							
PVNS2_IAP0R	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN ATTURKEY/BETHLEHEM-GLILIT/14)	14-79							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN ATTURKEY/YOBECON/71)	11-52							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN ALESS/90/77)	14-93							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA B VIRUS (STRAIN BLEE/40)	2-43	59-119						
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA B VIRUS (STRAIN BYAMAGATA/1/71)	2-43	59-119						
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	57-98							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	70-104							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	44-78	166-215						
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	37-78	88-122	166-215					
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	26-98	102-147						
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	13-51							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	11-52							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	2-40							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	11-47							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	1-42							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	1-42							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	50-84	95-152						
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	43-84							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	43-84							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	133-167							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	133-167							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	133-167							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	40-75	133-167						
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	58-133	161-199						
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	133-167							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	133-167							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	44-102	262-296						
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	34-75							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	5-39							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	5-39							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	35-69							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	144-183							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	138-173							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	1134-1175							
PVNS2_IAP0S	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/11/50)	209-243							

PGENE	ALLIOTIS	ALL Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PV01_S1VEA	165 KD PROTEIN	POTATO VIRUS X (STRAIN CP) (PVX)	510-547							
PV01_WCMVM	150 KD PROTEIN	STRAWBERRY MILD YELLOW EDGE-ASSOCIATED VIRUS (SMYE)	305-342	931-965						
PV01_WCMVO	147 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN N) (WCMV)	1240-1289							
PV10_NPVAC	147 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN O) (WCMV)	1240-1289							
PV10_P10	P10 PROTEIN	AUTOGRAFIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (7-41)								
PV10_RBSDV	P10 PROTEIN	ORGANIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (7-50)								
PV10_RGDV	PROTEIN S10	RICE BLACK STREAKED DWARF VIRUS (RBSDV)	339-382	395-429	506-556					
PV10_WTV	NON-STRUCTURAL PROTEIN P10	RICE GALL DWARF VIRUS (RGDV)	186-233							
PV11_RDV	NON-STRUCTURAL PROTEIN P10	WOUND TUNOR VIRUS (WTV)	220-254							
PV11_WTV	NON-STRUCTURAL PROTEIN P11	RICE DWARF VIRUS (RDV)	25-80	273-314						
PV12_RDV	NON-STRUCTURAL PROTEIN P11	WOUND TUNOR VIRUS (WTV)	16-74							
PV12_WTV	NON-STRUCTURAL PROTEIN P11	RICE DWARF VIRUS (RDV)	140-181							
PV18_WTVN1	NON-STRUCTURAL PROTEIN P12	WOUND TUNOR VIRUS (WTV)	68-108							
PV19_JISVEB	NON-STRUCTURAL PROTEIN P12	WOUND TUNOR VIRUS (STRAIN N) (WTV)	68-108							
PV23_HCNVA	CAPSID ASSEMBLY AND DNA MATURATION PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB-4P) (EHV-1)	189-231							
PV23_HSV6U	PROBABLE CAPSID PROTEIN VP23	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	41-82	146-180						
PV24_EHOV	PROBABLE CAPSID PROTEIN VP23	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	47-81							
PV26_JISVEB	MEMBRANE-ASSOCIATED STRUCTURAL PROTEIN VP26	EBOLA VIRUS	166-200							
PV26_NPVOP	CAPSID PROTEIN VP26	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB-4P) (EHV-1)	36-77							
PV26_VZVD	CAPSID PROTEIN VP26	HERPESVIRUS SAIMIRI (STRAIN 11)	41-78							
PV26_VZVH	CAPSID PROTEIN VP26	ORGANIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (VZV)	47-81							
PV27_BTIV10	OUTER CAPSID PROTEIN VP2	VARICELLA-ZOSTER VIRUS (STRAIN DUNIAS) (VZV)	136-188	270-304	410-465	614-662	684-720	976-1056		
PV27_BTIV11	OUTER CAPSID PROTEIN VP2	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACC1)	168-225							
PV27_BTIV17	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	77-111	559-593						
PV27_BTIV18	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	77-111							
PV27_BTIV19	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	77-111	168-209						
PV27_BTIV20	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	119-153	576-610	668-702					
PV27_BTIV21	OUTER CAPSID PROTEIN VP2	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1) (EHVDV)	72-106	247-301	405-453	461-495	895-929			
PV27_BTIV22	OUTER CAPSID PROTEIN VP2	BOVINE ROTAVIRUS (STRAIN RF)	2-94	482-516	523-557	607-655	675-754			
PV27_BTIV23	OUTER CAPSID PROTEIN VP2	BOVINE ROTAVIRUS (STRAIN UK)	2-94	483-517	524-558	608-656	676-755			
PV27_BTIV24	OUTER CAPSID PROTEIN VP2	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	17-97	492-526	533-567	617-658	685-764			
PV27_BTIV25	OUTER CAPSID PROTEIN VP2	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	1-50	52-99	194-228	515-551	599-643	705-746		
PV27_BTIV26	OUTER CAPSID PROTEIN VP2	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	36-96	483-517	608-656					
PV27_BTIV27	OUTER CAPSID PROTEIN VP2	AFRICAN SWINE FEVER VIRUS (STRAIN E-15) (ASFV)	29-89							
PV27_BTIV28	OUTER CAPSID PROTEIN VP2	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V) (ASFV)	227-261							
PV27_BTIV29	OUTER CAPSID PROTEIN VP2	EBOLA VIRUS	80-119							
PV27_BTIV30	OUTER CAPSID PROTEIN VP2	AUTOGRAFIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (34-102)	34-102	224-258						
PV27_BTIV31	OUTER CAPSID PROTEIN VP2	BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS (BNMPV)	34-102							
PV27_BTIV32	OUTER CAPSID PROTEIN VP2	VACCINIA VIRUS (STRAIN COPENHAGEN)	140-181							
PV27_BTIV33	OUTER CAPSID PROTEIN VP2	VACCINIA VIRUS (STRAIN L-1VP)	17-51							
PV27_BTIV34	OUTER CAPSID PROTEIN VP2	VACCINIA VIRUS (STRAIN WR)	140-181							
PV27_BTIV35	OUTER CAPSID PROTEIN VP2	VARIOLA VIRUS	141-182							
PV27_BTIV36	OUTER CAPSID PROTEIN VP2	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACC1)	173-214	240-274	667-704					
PV27_BTIV37	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	214-255	853-894						
PV27_BTIV38	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	214-255	853-894						
PV27_BTIV39	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	214-255	853-894						
PV27_BTIV40	OUTER CAPSID PROTEIN VP2	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1) (EHVDV)	208-246	798-832	851-892					
PV27_BTIV41	OUTER CAPSID PROTEIN VP2	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS	208-246	798-832	851-892					
PV27_BTIV42	OUTER CAPSID PROTEIN VP2	GRAPEVINE FAHLEAF VIRUS (GFLV)	96-133							
PV27_BTIV43	OUTER CAPSID PROTEIN VP2	RICE DWARF VIRUS (RDV)	299-337	817-872						
PV27_BTIV44	OUTER CAPSID PROTEIN VP2	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	24-58	229-263	329-395	406-446	640-688			

PCG/NE	ALL NOTIS	FILE NAME	ALL VIRUSES (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PVP40_EBV	INNER CORE PROTEIN VP1	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	YIRUS	26-76	244-278	331-365	451-492	667-696			
PVP40_HSV1	CAPSID PROTEIN P40	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)		433-467							
PVP40_HSV2	CAPSID PROTEIN P40	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)		206-237	599-633						
PVP40_ILTV	CAPSID PROTEIN P40	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)		180-245							
PVP40_SCMVC	CAPSID PROTEIN P40	INFECTIOUS LARYNGITIS VIRUS (STRAIN THORNE '88)		1-35	509-557						
PVP40_VZV	CAPSID PROTEIN P40	SIMIAN CYTOMEGALOVIRUS (STRAIN COLBURN)		457-498							
PVP41_NPVAC	CAPSID PROTEIN P40	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS) (VZV)		167-246	486-522						
PVP41_ROT51	STRUCTURAL GLYCOPROTEIN GP41	AUTOCORPUS CALIFORNICA NUCLEAR POLYEDROSIS VIRUS (132-166)		1-35	484-518	528-630					
PVP41_ROT51	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)		1-35	237-518	531-646					
PVP41_VACC	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)		335-359	718-763	794-828	857-891				
PVP41_VACC	MAJOR CORE PROTEIN P4A PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)		262-296	355-359	718-763	794-828	857-891			
PVP41_VAR	MAJOR CORE PROTEIN P4A PRECURSOR	VACCINIA VIRUS (STRAIN WR)		335-389	719-764	795-829	858-892				
PVP41_FOWPV	MAJOR CORE PROTEIN P4A PRECURSOR	VARIOLA VIRUS		131-172	296-330						
PVP41_VACC	MAJOR CORE PROTEIN P4B PRECURSOR	FOWLPOX VIRUS		3-37	125-163	249-283					
PVP41_VACC	MAJOR CORE PROTEIN P4B PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)		3-37	125-163	249-283					
PVP41_VAR	MAJOR CORE PROTEIN P4B PRECURSOR	VACCINIA VIRUS (STRAIN WR)		3-37	125-163	249-283					
PVP41_BT10	MAJOR CORE PROTEIN P4B PRECURSOR	VARIOLA VIRUS		3-37	125-163	249-283					
PVP41_BT11	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)		579-617	619-653						
PVP41_BT12	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)		569-607	609-643						
PVP41_BT2A	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)		569-607	609-643						
PVP41_NCDV	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)		569-607	609-643						
PVP41_RDV	OUTER CAPSID PROTEIN VP4	NEBRASKA CALF DIARRHEA VIRUS (STRAIN NCDV-LINCOLN)		484-518	528-630						
PVP41_ROT84	NONSTRUCTURAL PROTEIN PNS4	RICE DWARF VIRUS (RDV)		388-437	444-478	627-679					
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN B641)		1-35	112-146	338-379	484-518	528-653			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN C486)		1-35	484-518	528-630					
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN UK)		1-35	112-146	338-379	484-518	528-653			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN H-2)		1-35	112-146	227-274	345-379	484-518	528-653		
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	ROTA VIRUS (GROUP B / STRAIN IDIR)		117-151	476-519						
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 1076)		1-35	236-273	337-378	483-517	510-645			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN RV-5)		1-35	236-273	337-378	483-517	527-652			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 69N)		1-35	112-146	237-274	338-379	484-518	531-646		
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)		1-35	236-273	337-378	483-517	527-652			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN K8)		1-35	237-274	345-379	484-518	528-588			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN KU)		1-35	337-378	483-517	527-652				
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN L26)		1-35	236-273	337-378	483-517	527-652			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN M37)		1-35	337-378	483-517	530-645				
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN MCN13)		1-35	237-274	338-379	484-518	531-645			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN P)		1-35	236-273	337-378	483-517	527-652			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN RV)		1-38	91-146	227-274					
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN ST. THOMAS 3)		1-35	236-273	337-378	483-517	530-644			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN VA70)		1-35	237-273	344-378	483-517	527-652			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)		1-35	237-273	344-378	483-517	527-652			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)		112-146	484-518	528-629					
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)		6-40	127-161	241-278	293-334	580-614			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (GROUP C / STRAIN GOTTFRIED)		1-35	236-273	337-378	483-517	530-664	569-638		
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN YM)		1-35	112-146	237-274	484-518	528-629			
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	RUESUS ROTAVIRUS		1-38	112-146	237-274	338-379	484-522	531-646		
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11-FEN1)		1-35	484-518	528-630					
PVP41_ROT84	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11-SEN1)		1-35	237-274	345-379	484-518	531-646			
PVP41_ROT84	DE OUTER CAPSID PROTEIN VP4	WOUND TUMOR VIRUS (WT)		28-62	565-621						
PVP41_ROT84	NONSTRUCTURAL PROTEIN PNS4	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACC1)		113-229							
PVP41_ROT84	OUTER CAPSID PROTEIN VP5	BROADHAVEN VIRUS (BRD)		45-86	98-226						

PCGENE	ALLNOTIS	All Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8
ELK_NAME	PROTEIN	VIRUS								
PS09_ROTIN	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (STRAIN L36)	1-35	282-320						
PS09_ROTIO	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN NJ7)	2-43	282-320						
PS09_ROTIP	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN NO AND STRAIN D)	2-43	282-320						
PS09_ROTIR	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN P)	282-320							
PS09_ROTIS	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN RV)	282-320							
PS09_ROTIT	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN S2)	282-320							
PS09_ROTIV	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN ST. THOMAS 3)	18-56	208-242	282-320					
PS09_ROTIV	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN VA70)	18-56	208-242	282-320					
PS09_ROTIP2	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	2-43	282-320						
PS09_ROTIP3	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 3 / STRAIN AT7/6)	282-320							
PS09_ROTIP4	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 3 / STRAIN CRW-8)	2-56	208-242	282-320					
PS09_ROTIP5	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN OSU)	282-320							
PS09_ROTIP6	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)	282-320							
PS09_ROTIPB	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN TFR-41)	18-56	208-242	282-320					
PS09_ROTIPK	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN BEN-144)	18-56	208-242	282-320					
PS09_ROTIPM	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (STRAIN K)	18-56	208-242	282-320					
PS09_ROTIPY	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN BN11-1)	18-56	208-242	282-320					
PS09_ROTIRH	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (STRAIN YN)	1-35	282-320						
PS09_ROTISI	GLYCOPROTEIN VP7	RHESUS ROTAVIRUS	282-320							
PS10_ROTIN	GLYCOPROTEIN VP7	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	282-320							
PS10_ROTBS	NONSTRUCTURAL GLYCOPROTEIN NCVP5	BOVINE ROTAVIRUS (STRAIN NCDV)	73-161							
PS10_ROTBU	MINOR OUTER CAPSID PROTEIN	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	17-58							
PS10_ROT2	NONSTRUCTURAL GLYCOPROTEIN NCVP5	BOVINE ROTAVIRUS (STRAIN UK)	73-161							
PS10_ROT7	NONSTRUCTURAL GLYCOPROTEIN NCVP5	HUMAN ROTAVIRUS (STRAIN A38)	73-162							
PS10_ROT8	NONSTRUCTURAL GLYCOPROTEIN NCVP5	HUMAN ROTAVIRUS (STRAIN A64 / CLONE 2)	73-162							
PS10_ROT9	NONSTRUCTURAL GLYCOPROTEIN NCVP5	HUMAN ROTAVIRUS (STRAIN A64 / CLONE 6)	73-162							
PS10_ROT10	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (GROUP C / STRAIN BRUSTOL)	121-158							
PS10_ROT11	NONSTRUCTURAL GLYCOPROTEIN NCVP5	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	73-136							
PS11_ROTGA	NONSTRUCTURAL GLYCOPROTEIN NCVP5	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	73-162							
PS11_ROTGI	NONSTRUCTURAL PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADVY) (ADULT DIARRHEA ROTAVIRUS)	24-65	96-130						
PS11_ROTIS	NONSTRUCTURAL PROTEIN	ROTAVIRUS (GROUP B / STRAIN IDIR)	9-68							
PS11_ROT16	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN RV-5)	100-145							
PS11_ROT1B	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 69H)	107-144							
PS11_ROT1D	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE G / STRAIN D37)	107-144							
PS11_ROT1W	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)	111-145							
PS11_ROT1S	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	111-145							
PS148_TBRVC	MINOR OUTER CAPSID PROTEIN	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	111-145							
PSVH_MUMPI	SATELLITE RNA 48 KD PROTEIN	TOMATO BLACK RING VIRUS (STRAIN C) (TBRV)	217-265							
PSVH_MUMIP2	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN SBL-1) AND MUNIPS VIRUS (STRAIN SBL)	9-46							
PSVH_MUMIP4	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN EDINGBURGH 2) AND (STRAIN EDINGB)	13-47							
PSVH_MUMPA	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN EDINGBURGH 4)	13-47							
PSVH_MUMPB	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN MATSUJANA)	13-51							
PSVH_MUMPE	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN DELFAST)	13-52							
PSVH_MUMPI	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN ENDERS)	9-46							
PSVH_MUMPK	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN JERYL-LYNN)	9-46							
PSVH_MUMPL	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN KILHAN)	9-51							
PSVH_MUMPM	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN BRISTOL 1)	13-55							
PSVH_MUMPT	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN MIYAHARA VACCINE)	17-51							
PSVH_MUMPU	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN TAKAHASHI)	13-47							
PSV11_REODV	SMALL HYDROPHOBIC PROTEIN	MUNIPS VIRUS (STRAIN URABE VACCINE A49)	13-47							
PSV11_REOVJ	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 3 / STRAIN DEARING)	8-122	121-175	222-259					
PSV11_REOVL	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 2 / STRAIN D5/ONES)	1-178							

PCGENE	ALLNOTIS	ALL Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PVS12_REOVD	SIGNA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 1 / STRAIN LANG)	3-107	112-198						
PVS12_REOVL	SIGNA 2 PROTEIN	REOVIRUS (TYPE 1 / STRAIN DEARNO)	350-384							
PVS1S_REOVD	SIGNA 2 PROTEIN	REOVIRUS (TYPE 1 / STRAIN LANG)	350-384							
PVS1S_REOVL	SIGNA 1-S PROTEIN	REOVIRUS (TYPE 1 / STRAIN DEARNO)	85-119							
PVS12_HEVBU	SIGNA 1-S PROTEIN	REOVIRUS (TYPE 2 / STRAIN D/IONES)	7-45							
PVS12_HEVME	STRUCTURAL PROTEIN 2 PRECURSOR	HEPATITIS E VIRUS (STRAIN BURMA) (HEV)	318-352							
PVS12_HEVMY	STRUCTURAL PROTEIN 2 PRECURSOR	HEPATITIS E VIRUS (STRAIN MEXICO) (HEV)	317-351							
PVS12_HEVPA	STRUCTURAL PROTEIN 2 PRECURSOR	HEPATITIS E VIRUS (STRAIN MYANMAR) (HEV)	318-352							
PVS12_HEVRH	STRUCTURAL PROTEIN 2 PRECURSOR	HEPATITIS E VIRUS (STRAIN PAKISTAN) (HEV)	318-352							
PVT1A_CAPV1	STRUCTURAL PROTEIN 2	HEPATITIS E VIRUS (ISOLATE RHESUS) (HEV)	186-220							
PVT4_CAPV1	PROTEIN TJA	CAPRIPOXVIRUS (STRAIN INS-1)	120-158							
PVT4_CAPVK	T4 PROTEIN	CAPRIPOXVIRUS (STRAIN INS-1)	86-120							
PVT4_EBV	T4 PROTEIN	CAPRIPOXVIRUS (STRAIN KS-1)	86-120							
PVT4_HCMVA	PROBABLE DNA PACKAGING PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	235-290	595-629						
PVT4_HSV6U	PROBABLE DNA PACKAGING PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	417-451	617-658						
PVT4_HSV6B	PROBABLE DNA PACKAGING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UCANDA-1102)	468-502							
PVT4_HSV11	PROBABLE DNA PACKAGING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AU4P) (E1IV-1)	11-45							
PVT4_HSV5A	PROBABLE DNA PACKAGING PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	98-136	698-744						
PVT4_VZVD	PROBABLE DNA PACKAGING PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	226-267							
PVT4_P14HA	PROBABLE DNA PACKAGING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	588-622							
PVY1_SEND6	V PROTEIN	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIDA) (PIV-4A)	4-38							
PVY1_SSV1	Y1 PROTEIN	SENDAL VIRUS (STRAIN 694)	104-138							
PVY108_SSV1	HYPOTHETICAL 10.1 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	16-80							
PVY110_SSV1	HYPOTHETICAL 10.8 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	4-65							
PVY119_SSV1	HYPOTHETICAL 11.0 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	55-59							
PVY11K_TYDVA	HYPOTHETICAL 11.9 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	30-96							
PVY13K_FCVC6	HYPOTHETICAL 11.2 KD PROTEIN	TOBACCO YELLOW DWARF VIRUS (STRAIN AUSTRALIA) (TYDV)	53-87							
PVY13K_FCVC9	HYPOTHETICAL 12.2 KD PROTEIN IN COAT PROTEIN	FELINE CALCIVIRUS (STRAIN F1V) (FCV)	4-38							
PVY13K_RHDV	HYPOTHETICAL 12.1 KD PROTEIN IN COAT PROTEIN	FELINE CALCIVIRUS (STRAIN F9) (FCV)	4-38							
PVY13K_RHDV3	HYPOTHETICAL 12.7 KD PROTEIN IN COAT PROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS (KHIDV)	13-50							
PVY13K_CLVK	HYPOTHETICAL 12.7 KD PROTEIN IN COAT PROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS (STRAIN V-331) (NIDV)	13-50							
PVY13K_CLVN	HYPOTHETICAL 13.1 KD PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYA 844)	40-77							
PVY13K_NPVOP	HYPOTHETICAL 13.1 KD PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	43-77							
PVY13K_SSV1	HYPOTHETICAL 14.5 KD PROTEIN IN 39 KD PROTEIN	ORGANIA PSEUDOTUGATA MULTICAPSID POLYIHDROSIS VIRUS	16-67							
PVY14K_SSV1	HYPOTHETICAL 13.2 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	2-36	62-96						
PVY16K_ADE02	HYPOTHETICAL 13.7 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	5-39							
PVY16K_SSV1	HYPOTHETICAL PROTEIN C-168	HUMAN ADENOVIRUS TYPE 2	119-166							
PVY17K_SSV1	HYPOTHETICAL 15.6 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	1-35	77-111						
PVY18K_SSV1	HYPOTHETICAL 17.8 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	1-45	119-153						
PVY20K_SSV1	HYPOTHETICAL 18.0 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	102-136							
PVY23K_SSV1	HYPOTHETICAL 20.4 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	73-107							
PVY2_SOCNV	HYPOTHETICAL 28.5 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	127-180							
PVY31K_SSV1	HYPOTHETICAL 31.5 KD PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	117-154							
PVY32K_SSV1	HYPOTHETICAL 31.5 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	7-97	100-141						
PVY33K_SSV1	HYPOTHETICAL 31.7 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	230-278							
PVY3_SOCNV	HYPOTHETICAL 37.7 KD PROTEIN	AUTOGAPHA CALIFORNICA NUCLEAR POLYIHDROSIS VIRUS (133-241)	115-149							
PVY3K9_SSV1	HYPOTHETICAL PROTEIN 3	SOYBEAN CHLOROTIC MOTTLE VIRUS	1-51							
PVY7_SOCNV	HYPOTHETICAL 5.9 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	56-94							
PVY3K_SSV1	HYPOTHETICAL PROTEIN 7	SOYBEAN CHLOROTIC MOTTLE VIRUS	81-125	503-537	546-587	658-700				
PVY8_SOCNV	HYPOTHETICAL 83.7 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	46-83							
PVY801_FOWPM	HYPOTHETICAL PROTEIN 8	SOYBEAN CHLOROTIC MOTTLE VIRUS	74-115							
PVY804_FOWPM	HYPOTHETICAL BAKH-ORF1 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438) (MUNICH)	184-221							

PCGENE	ALLNOTIS	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PYVTH_VACCC	HYPOTHETICAL 7.9 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	23-57							
PYVCC_VACCC	HYPOTHETICAL 7.4 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	5-39							
PYVDB_VACCC	HYPOTHETICAL 9.7 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	11-48							
PYVDB_VACCV	HYPOTHETICAL 8.3 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	29-80							
PYVDC_VACCV	HYPOTHETICAL 8.3 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	46-80							
PYVGB_VACCC	HYPOTHETICAL 7.3 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	7-41							
PYVTA_VACCC	HYPOTHETICAL 8.4 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	10-51							
	HYPOTHETICAL 8.1 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	9-53							

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TABLE VI

107 X 178 X 4 SEARCH MOTIF RESULTS SUMMARY

FOR ALL VIRAL (NON-BACTERIOPHAGE) PROTEINS

PCGENE	1071784	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS									
P194K TRVSV	POT 194 KD PRO	TOBACCO RATTLE VIRUS (STRAIN SYA1)	387-414	1087-1114	1142-1169						
PAANT_HDVAM	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	106-133								
PAANT_HDVDM	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	106-133								
PAANT_HDVIT	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	106-133								
PAANT_HDVN2	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	106-133								
PAANT_HDVS1	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	16-43	106-133							
PAANT_HDVS2	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	16-43	106-133							
PAANT_HDVW0	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	106-133								
PAT11 FOWPM	ANTITRIBOMIN-III HOMOLOG	FOWLPOX VIRUS (ISOLATE IP-411 MUNICH)	72-106								
PAT11 VACCV	94 KD A-TYPE INCLUSION PRO	VACCINIA VIRUS (STRAIN WR)	14-56	67-94	424-472	570-625					
PAT11 VARV	81 KD A-TYPE INCLUSION PRO	VARIOLA VIRUS	67-94	425-504	571-605						
PAT12 HSV11	ALPHA TRANS-IND FACTOR 78 KD PRO	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	308-335								
PAT12 HSV1F	ALPHA TRANS-IND FACTOR 77 KD PRO	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	308-335								
PAT12 HSVB	ALPHA TRANS-IND FACTOR 82 KD PRO	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	294-321								
PAT1N HSVB	ALPHA TRANS-IND PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	255-289								
PAT1L COMPX	A-TYPE INCLUSION PROTEIN	COWPOX VIRUS	14-56	67-94	426-498	572-620	837-841	914-990	1234-1261		
PB2LF EBV	BZLF1 TRANS-ACTIVATOR PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	193-220								
PCAH1 VACCV	CELL SURFACE-BINDING PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	84-111	117-144							
PCAH1 VACCV	CELL SURFACE-BINDING PROTEIN	VACCINIA VIRUS (STRAIN WR)	84-111	117-144							
PCAH1 VARV	CELL SURFACE-BINDING PROTEIN	VARIOLA VIRUS	84-111	117-144							
PCB2F HSVB	CELL FUSION PROTEIN PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN'S AB4P and Ky A)	312-339								
PCB2F HSVB	CELL SURFACE-BINDING PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	127-154								
PCO1A POVHA	COAT PROTEIN VP1	HAMSTER POLYOMAVIRUS	159-186								
PCO2A BFDV	COAT PROTEIN VP2	BUDGERIGAR FLEDGLING DISEASE VIRUS	160-187								
PCO2A POVBO	COAT PROTEIN VP2	BOVINE POLYOMAVIRUS	49-76								
PCO2A POVIC	COAT PROTEIN VP2	POLYOMAVIRUS JC	37-64								
PCO2A POVLY	COAT PROTEIN VP2	LYMPHOTROPIC POLYOMAVIRUS	170-204								
PCO2A POVMK	COAT PROTEIN VP2	MOUSE POLYOMAVIRUS (STRAIN KILHAM)	22-49								
PCO2A SV40	COAT PROTEIN VP2	SIMIAN VIRUS 40	178-205								
PCO2A AA1V2	PROBABLE COAT PROTEIN 3	ADENO-ASSOCIATED VIRUS 2	120-147								
PCO2A TTV1	COAT PROTEIN TP3	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	3-30								
PCO2A ADVG	COAT PROTEIN VP1	ALEUTIAN MINK DISEASE PARVOVIRUS (STRAIN G)	194-221								
PCO2A BLKV	COAT PROTEIN	BEAN LEAFROLL VIRUS	96-123								
PCO2A CMYV	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	63-90	193-220	461-488						
PCO2A CMYD	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/H)	64-91	194-221							
PCO2A CMYE	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BBC)	63-90	193-220							
PCO2A CMYN	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8155)	63-90	192-219	461-488						
PCO2A CMYS	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	64-91	194-221							
PCO2A CMYV	COAT PROTEIN	CARNATION MOTTLE VIRUS	16-43								
PCO2A CRVP1	MAJOR CAPSID PROTEIN	PARAMECTUM BURSARIA CHLORELLA VIRUS 1	41-86								
PCO2A CNV	COAT PROTEIN	CHLORIS STRIATE MOSAIC VIRUS	328-362								
PCO2A CSNV	COAT PROTEIN	CLOVER YELLOW MOSAIC VIRUS	62-89								
PCO2A CYMV	COAT PROTEIN	FELINE CALCIVIRUS (STRAIN CFI/68 FIV)	170-200								
PCO2A FCYV6	COAT PROTEIN	FELINE CALCIVIRUS (STRAIN F9)	566-600								
PCO2A FCYF4	COAT PROTEIN	FELINE CALCIVIRUS (STRAIN JAPANESE F4)	516-543	566-600							
PCO2A FCYF9	COAT PROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	519-546	569-603							
PCO2A FMVD	PROBABLE COAT PROTEIN	LILY SYMPTOMLESS VIRUS	220-247	358-385							
PCO2A LSV	COAT PROTEIN	MISCANTHUS STREAK VIRUS	32-700	246-273							
PCO2A MSV	COAT PROTEIN	ODONTOGLOSSUM RINGSPOT VIRUS	139-166								
PCO2A ORSV	COAT PROTEIN	HUMAN PARVOVIRUS B19	106-133								
PCO2A PAVHB	PROBABLE COAT PROTEIN VP1	POPLAR MOSAIC VIRUS (ISOLATE ATCC PV725)	524-551	569-596							
PCO2A POPMV	COAT PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	46-73								
PCO2A SOCMV	COAT PROTEIN	TAMARILLO MOSAIC VIRUS	128-162								
PCO2A TAMV	GENOME POLYPROTEIN	TOMATO ASPERMY VIRUS	21-48								
PCO2A TAV	COAT PROTEIN	TOMATO BUSHY STUNT VIRUS (STRAIN BS-3)	23-50								
PCO2A TBSVB	COAT PROTEIN	TOMATO BUSHY STUNT VIRUS (STRAIN CHERRY)	3-30	41-68							
PCO2A TBSVC	COAT PROTEIN		97-134								

PCGENE	1071714	All Viruses (no bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	VIRUS									
PCOAT1	COAT PROTEIN	TURNIP CRINKLE VIRUS	232-259								
PCOAT2	COAT PROTEIN	TOBACCO MILD GREEN MOSAIC VIRUS	104-131								
PCOAT3	COAT PROTEIN	TOBACCO MOSAIC VIRUS (VULGARE)	104-131								
PCOAT4	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN COWPEA)	78-132								
PCOAT5	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN DAHLEMENSE)	104-131								
PCOAT6	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN ER)	104-131								
PCOAT7	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN O and KOKUBU)	104-131								
PCOAT8	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN ON)	104-131								
PCOAT9	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN TOMATO/L)	104-131								
PCOAT10	COAT PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN A)	90-117								
PCOAT11	COAT PROTEIN	TOBACCO RATTLE VIRUS (STRAINS PSO and PLB)	118-145								
PCOAT12	COAT PROTEIN	TOBACCO YELLOW DWARF VIRUS (STRAIN AUSTRALIA)	10-37								
PCOAT13	COAT PROTEIN	TURNIP YELLOW MOSAIC VIRUS	41-68								
PCOAT14	COAT PROTEIN	TURNIP YELLOW MOSAIC VIRUS (AUSTRALIAN ISOLATE)	41-68								
PCOAT15	COAT PROTEIN	TURNIP YELLOW MOSAIC VIRUS TYPE 7	46-71								
PCOAT16	COAT PROTEIN	HUMAN ADENOVIRUS TYPE 7	977-1004	1041-1068							
PCOAT17	COAT PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	437-464								
PCOAT18	COAT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	311-368	512-519							
PCOAT19	COAT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	584-618								
PCOAT20	COAT PROTEIN	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	2-29								
PCOAT21	COAT PROTEIN	POLYOMAVIRUS JC	433-462	512-519							
PCOAT22	COAT PROTEIN	SIMIAN CYTOMEGALOVIRUS (STRAIN COLBURN)	104-131	172-199	358-385						
PCOAT23	COAT PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	104-131	172-199	358-385						
PCOAT24	COAT PROTEIN	VACCINIA VIRUS (STRAIN WR)	104-131	172-199	358-385						
PCOAT25	COAT PROTEIN	VARIOLA VIRUS	403-431	202-240							
PCOAT26	COAT PROTEIN	HUMAN ADENOVIRUS TYPE 12	338-365								
PCOAT27	COAT PROTEIN	CHORISTONEURA BIENNIS ENTOMOPHOSVIRUS	23-64	202-240							
PCOAT28	COAT PROTEIN	CHLORELLA VIRUS NY-2A	338-365								
PCOAT29	COAT PROTEIN	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	17-51	370-416	621-655	772-799					
PCOAT30	COAT PROTEIN	FOWLPOX VIRUS	753-780								
PCOAT31	COAT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	5-39								
PCOAT32	COAT PROTEIN	DUCK HEPATITIS B VIRUS (BROWN SHANGHAI DUCK ISOLATE S5)	5-39								
PCOAT33	COAT PROTEIN	DUCK HEPATITIS B VIRUS (STRAIN CHINA)	5-39								
PCOAT34	COAT PROTEIN	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE S11)	304-311								
PCOAT35	COAT PROTEIN	GROUND SQUIRREL HEPATITIS VIRUS	271-325								
PCOAT36	COAT PROTEIN	HERON HEPATITIS B VIRUS	5-39								
PCOAT37	COAT PROTEIN	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN PHILIPPINE/PEDW294)	456-483								
PCOAT38	COAT PROTEIN	HEPATITIS B VIRUS (SUBTYPE ADYN)	443-470								
PCOAT39	COAT PROTEIN	ICTALURID HERPESVIRUS 1	328-366	710-717							
PCOAT40	COAT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	623-652								
PCOAT41	COAT PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	598-643								
PCOAT42	COAT PROTEIN	LYMANTRIA DISPAR MULTICAPSID NUCLEAR POLYHEDROSIS VIRUS	357-384								
PCOAT43	COAT PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	770-797								
PCOAT44	COAT PROTEIN	VACCINIA VIRUS (STRAIN WR)	770-797								
PCOAT45	COAT PROTEIN	VARIOLA VIRUS	769-796								
PCOAT46	COAT PROTEIN	WOODCHUCK HEPATITIS VIRUS 1	285-326								
PCOAT47	COAT PROTEIN	WOODCHUCK HEPATITIS VIRUS 59	290-331								
PCOAT48	COAT PROTEIN	WOODCHUCK HEPATITIS VIRUS 7	212-242	290-331							
PCOAT49	COAT PROTEIN	WOODCHUCK HEPATITIS VIRUS 8	211-241	289-330							
PCOAT50	COAT PROTEIN	WOODCHUCK HEPATITIS VIRUS 8	212-242	290-331							
PCOAT51	COAT PROTEIN	WOODCHUCK HEPATITIS VIRUS 8	516-533								
PCOAT52	COAT PROTEIN	CORYNEPHAGE BETA	523-560								
PCOAT53	COAT PROTEIN	CORYNEPHAGE BETA	516-533								
PCOAT54	COAT PROTEIN	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	90-117								
PCOAT55	COAT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	179-213								
PCOAT56	COAT PROTEIN	HUMAN ADENOVIRUS TYPE 7	126-153								
PCOAT57	COAT PROTEIN	HUMAN ADENOVIRUS TYPE 40	136-163								
PCOAT58	COAT PROTEIN	HUMAN ADENOVIRUS TYPE 12	3-30								

PCGENE	10/17/84	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PE1B3_ADEM1	E1B PROTEIN, SMALL T-ANTIGEN	MOUSE ADENOVIRUS TYPE 1	122-173								
PE1B4_ADE02	EARLY E1B 14 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	2-29								
PE1B4_ADE07	EARLY E1B 13.3 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	21-48								
PE1B20_ADE03	EARLY E1B 20.1 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 3	5-32	70-100							
PE1B20_ADE35	EARLY E1B 20.3 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 35	70-107								
PE1B21_ADE35	EARLY E1B 20.6 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 35	125-161								
PE1B21_ADEM1	EARLY E1B 17.7 KD GLYCOPROTEIN	MOUSE ADENOVIRUS TYPE 1	38-46								
PEAR_EBV	EARLY ANTIGEN PROTEIN R	EPSTEIN-BARR VIRUS (STRAIN 1005-4)	55-82								
PE1T1_VAV	EARLY TRANS FACTOR 70 KD SUBUNIT	VARIOLA VIRUS	307-341	470-497							
PENV_AVIRE	ENV POLYPROTEIN	AVIAN RETICULOENDOTHELIOSIS VIRUS	420-468								
PENV_AVISN	ENV POLYPROTEIN	AVIAN SPLEEN NECROSIS VIRUS	6-33	426-474							
PENV_BAEYM	ENV POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN M7)	395-452								
PENV_BIV06	ENV POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	17-44	544-603	631-695						
PENV_BIV27	ENV POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	17-44	573-632	600-724						
PENV_BLVAF	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AMERICAN ISOLATE FLK)	304-377								
PENV_BLVAV	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	304-377								
PENV_BLVAV	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AMERICAN ISOLATE VDM)	304-377								
PENV_BLV82	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB285)	311-377								
PENV_BLV85	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB59)	304-377								
PENV_BLV1	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	304-377								
PENV_CAEVG	ENV POLYPROTEIN	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN G63)	165-192								
PENV_EIAV1	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3 2-1)	668-712								
PENV_EIAV2	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3 2-2)	668-695								
PENV_EIAV3	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3 2-3)	668-712								
PENV_EIAV3	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3 2-5)	669-696								
PENV_EIAV9	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1369)	668-712								
PENV_EIAVC	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22)	668-712								
PENV_EIAVW	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (STRAIN WSUS)	668-712								
PENV_EIAVY	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	668-712								
PENV_FENV1	ENV POLYPROTEIN	FELINE ENDOGENOUS VIRUS ECE1	33-60	517-544							
PENV_FIVPE	ENV POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	650-680	722-749							
PENV_FIVSD	ENV POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	639-668	720-747							
PENV_FIVT2	ENV POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE T42)	640-679	721-748							
PENV_FLV06	ENV POLYPROTEIN	FELINE LEUKEMIA PROVIRUS (CLONE CFE-6)	509-538								
PENV_FLVGL	ENV POLYPROTEIN	FELINE LEUKEMIA VIRUS (STRAIN AGLASGOW-1)	490-519								
PENV_FLVIB	ENV POLYPROTEIN	FELINE LEUKEMIA VIRUS (STRAIN LAMBDA-B1)	510-539								
PENV_FLVSA	ENV POLYPROTEIN	FELINE LEUKEMIA VIRUS (STRAIN SARMA)	487-516								
PENV_FOAMV	ENV POLYPROTEIN	HUMAN SPUMARETROVIRUS	14-41	318-355	866-893						
PENV_FSVGA	ENV POLYPROTEIN	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	510-539								
PENV_FSVGB	ENV POLYPROTEIN	FELINE SARCOMA VIRUS (STRAIN GA)	490-519								
PENV_FSVSM	ENV POLYPROTEIN	FELINE SARCOMA VIRUS (STRAIN SM)	493-522								
PENV_GALV	ENV POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	176-203	523-564							
PENV_HTL1A	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	342-376								
PENV_HTL1C	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE)	342-376								
PENV_HTL1M	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (ISOLATE MT-2)	342-376								
PENV_HTLV2	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE II	336-370								
PENV_HVIA2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ARV2SF2 ISOLATE)	544-592	630-682	790-825						
PENV_HVIB1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH10 ISOLATE)	545-594	631-683	791-818						
PENV_HVIB8	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH18 ISOLATE)	540-589	626-678	786-813						
PENV_HVIBN	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BRIN ISOLATE)	287-294	338-365	562-590	628-679	787-815				
PENV_HVIBR	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BRU ISOLATE)	550-599	636-688	796-823						
PENV_HVICA	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (CDC-451 ISOLATE)	397-424	557-606	643-695	803-835					
PENV_HVIEL	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ELI ISOLATE)	255-296	386-413	543-591	628-680					
PENV_HV1H2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HXB2 ISOLATE)	545-594	631-683	791-818						
PENV_HV1H3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HXB3 ISOLATE)	545-594	631-683	791-818						
PENV_HV1J2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HJ3 ISOLATE)	350-377	556-605	642-694	802-829					
PENV_HV1JR	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (JRC5F ISOLATE)	336-363	622-675	783-811						

PCGENE	10717824	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS									
PENY_HV1KB	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN KB-1-GH22)	274-301	555-596	637-677	716-824					
PENY_HV1MA	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	547-595	633-707	794-826						
PENY_HV1ME	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MFA ISOLATE)	543-592	629-681	789-816						
PENY_HV1MN	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	343-370	567-595	632-684	791-819					
PENY_HV1NS	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOLATE)	326-360								
PENY_HV1ND	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	249-290	536-583	621-673	783-813					
PENY_HV1OY	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OVI ISOLATE)	344-393	630-704	789-820						
PENY_HV1PV	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	545-594	631-683	791-818						
PENY_HV1RH	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RH1AT ISOLATE)	280-307	331-378	554-602	640-692	800-832				
PENY_HV1S1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE)	333-363	536-585	622-674	782-809					
PENY_HV1S3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF33 ISOLATE)	341-389	627-679	787-815						
PENY_HV1S3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SC ISOLATE)	338-365	545-593	631-683						
PENY_HV1W1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WAIJ1 ISOLATE)	338-365	545-593	631-683	791-818					
PENY_HV1W2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WAIJ2 ISOLATE)	334-361	536-584	622-674	782-809					
PENY_HV1Z2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2CDC-234 ISOLATE)	235-296	542-591	628-680	790-820					
PENY_HV1Z3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z3AIRE 3 ISOLATE)	231-292								
PENY_HV1Z6	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z6AIRE 6 ISOLATE)	256-297	545-593	630-682	792-822					
PENY_HV1Z8	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z8AIRE 8 ISOLATE)	266-307	573-601	634-678	797-828					
PENY_HV1Z8	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z8AIRE 12321 ISOLATE)	545-594	627-666	791-823						
PENY_HV2BE	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE DEN)	61-88	532-591	621-648	651-697					
PENY_HV2CA	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAN2)	534-593	623-650	655-699						
PENY_HV2D1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	61-88	523-550	555-582	644-638					
PENY_HV2G1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	60-87	524-551	556-583	613-640	645-693				
PENY_HV2N2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NHI-2)	61-88	524-551	556-583	613-640	662-689				
PENY_HV2R0	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	58-85	533-592	622-698						
PENY_HV2S2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST/241C42)	442-476	527-554	559-586	648-682					
PENY_HV2S8	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SILISY)	557-584	614-673							
PENY_HV2S7	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	442-476	527-554	559-586	648-692					
PENY_MCFE	ENV POLYPROTEIN	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS	473-512								
PENY_MCFJ3	ENV POLYPROTEIN	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS (ISOLATE CI-3)	488-515								
PENY_MLVA1	ENV POLYPROTEIN	AKV MURINE LEUKEMIA VIRUS	317-544								
PENY_MLVCB	ENV POLYPROTEIN	CAS-BR-E MURINE LEUKEMIA VIRUS	510-539								
PENY_MLVF3	ENV POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE 57)	523-553								
PENY_MLVFF	ENV POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)	523-553								
PENY_MLVFP	ENV POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE PVC-211)	523-553								
PENY_MLVHO	ENV POLYPROTEIN	HOMOLY MURINE LEUKEMIA VIRUS	510-540								
PENY_MLVK1	ENV POLYPROTEIN	KIRSTEN MURINE LEUKEMIA VIRUS	40-81								
PENY_MLVMO	ENV POLYPROTEIN	MOLONEY MURINE LEUKEMIA VIRUS	502-543								
PENY_MLVRO	ENV POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	497-538								
PENY_MLVVK	ENV POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	497-538								
PENY_MMTVB	ENV POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	458-485	562-589							
PENY_MMTVG	ENV POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	458-485	562-589							
PENY_MPMV	ENV POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	422-470								
PENY_MSVEB	ENV POLYPROTEIN	FBI MURINE OSTEOSARCOMA VIRUS	57-84								
PENY_MNVVS	ENV POLYPROTEIN	OVINE LENTIVIRUS (STRAIN SA-ONVV)	42-69	196-223	780-807						
PENY_RMCFV	ENV POLYPROTEIN	RAUSCHER MINK CELL FOCUS-INDUCING VIRUS	487-517								
PENY_SFVI	ENV POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	14-41	866-901							
PENY_SFVL	ENV POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 3 / STRAIN LK3)	18-45	319-357	673-700	863-898					
PENY_SIV1	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	269-310	561-588	592-619	697-724					
PENY_SIVAG	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	270-301	566-593	597-624	658-685	703-730				
PENY_SIVAT	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR1-1)	257-291	336-372	548-603	634-708					
PENY_SIVAT	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	3-30	268-298	590-617	651-678					
PENY_SIVCZ	ENV POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS	160-187	253-289	336-366	526-584	627-654				
PENY_SIVGB	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	8-35	158-185	589-650	784-816					
PENY_SIVM1	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (NM142-83 ISOLATE)	120-150	550-609	671-715						
PENY_SIVM2	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (NM251 ISOLATE)	156-215	277-289							
PENY_SIVMK	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (KAW ISOLATE)	553-608								

PCGENE	1071784	All Viruses (no bacteriophages)									
FILENAME	PROTEIN	VIRUS									
PENY_SIVM	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PENY_SIVS4	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (F236/SMH4 ISOLATE)	549-608	553-612	642-669	691-718					
PENY_SIVSP	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PB1/BC11 ISOLATE)	286-313	554-595	646-722						
PENY_SMRVH	ENV POLYPROTEIN	SQUIRREL MONKEY RETROVIRUS (SMRV-H)	400-462								
PENY_SRV1	ENV POLYPROTEIN	SIMIAN RETROVIRUS SRV-1	409-471								
PENY_VILV	ENV POLYPROTEIN	VISNA LENTIVIRUS (STRAIN J514)	22-62	771-800							
PENY_VILV1	ENV POLYPROTEIN	VISNA LENTIVIRUS (STRAIN J514 / CLONE LV1-1KS1)	22-62	780-807							
PENY_VILV2	ENV POLYPROTEIN	VISNA LENTIVIRUS (STRAIN J514 / CLONE LV1-1KS2)	22-62	782-809							
PET1_FOWP1	EARLY TRANS FACTOR 70 KD SUBUNIT	FOWLPOX VIRUS (STRAIN FP-1)	190-224								
PET1_SFVKA	EARLY TRANS FACTOR 70 KD SUBUNIT	SHOPE FIBROMA VIRUS (STRAIN KASZA)	306-340	469-496	550-587						
PET1_VACCC	EARLY TRANS FACTOR 70 KD SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)	307-341	470-497							
PET1_VACCV	EARLY TRANS FACTOR 70 KD SUBUNIT	VACCINIA VIRUS (STRAIN WR)	307-341	470-497							
PET2_VACCC	EARLY TRANSCRIPTION FACTOR 82	VACCINIA VIRUS (STRAIN COPENHAGEN)	66-97	174-210	302-332						
PET2_VARY	EARLY TRANSCRIPTION FACTOR 82	VARIOLA VIRUS	66-97	174-210	302-332						
PEXON_VZVD	ALKALINE EXONUCLEASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	109-139								
PFB2_ADE40	41.4 KD FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 40	179-237								
PFB2_ADE41	41.4 KD FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 41	178-216								
PFB2_ADE42	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 2	308-335								
PFB2_ADE43	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 40	324-351	446-473							
PFB2_ADE44	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 41	339-366	461-488							
PFB2_ADE45	FIBER PROTEIN	BOVINE ADENOVIRUS TYPE 3	118-145	164-191							
PFB2_ADE46	FIBER PROTEIN	MOUSE ADENOVIRUS TYPE 1	275-305	325-352							
PFB2_ADE47	FIBER PROTEIN	FBR MURINE OSTEOSARCOMA VIRUS	138-169								
PFB2_ADE48	V-FOS/FOX TRANSFORMING PROTEIN	AVIAN RETROVIRUS NK24	116-147								
PFB2_ADE49	P53-V-FOS TRANSFORMING PROTEIN	FBI MURINE OSTEOSARCOMA VIRUS	162-193								
PFB2_ADE50	P53-V-FOS TRANSFORMING PROTEIN	AVIAN SPLEEN NECROSIS VIRUS	270-297								
PFB2_ADE51	GAG POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	144-171								
PFB2_ADE52	GAG POLYPROTEIN	HUMAN SPINARETROVIRUS	396-442	447-474							
PFB2_ADE53	GAG POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	91-118								
PFB2_ADE54	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2SF2 ISOLATE)	91-118								
PFB2_ADE55	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (H3 ISOLATE)	87-118								
PFB2_ADE56	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	88-115								
PFB2_ADE57	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	88-115								
PFB2_ADE58	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	88-115								
PFB2_ADE59	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-2)	88-115								
PFB2_ADE60	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	270-297								
PFB2_ADE61	RETROVIRUS-RELATED GAG POLYPROTEIN	HAMSTER INTRACISTERNAL A-PARTICLE	33-60	69-103	232-259						
PFB2_ADE62	RETROVIRUS-RELATED GAG POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	96-130								
PFB2_ADE63	RETROVIRUS-RELATED GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	84-151	156-187							
PFB2_ADE64	GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN C3H)	84-151	156-187							
PFB2_ADE65	GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	222-260								
PFB2_ADE66	GAG POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS (MPMV)	497-531	624-651							
PFB2_ADE67	MAJOR COAT PROTEIN	SACCHAROMYCES CEREVISIAE VIRUS L-A	473-507								
PFB2_ADE68	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GRI-1)	88-115								
PFB2_ADE69	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K&W ISOLATE)	88-115								
PFB2_ADE70	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (STM ISOLATE)	88-115								
PFB2_ADE71	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (F236/SMH4 ISOLATE)	88-115								
PFB2_ADE72	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PB1/BC11 ISOLATE)	397-443								
PFB2_ADE73	GAG POLYPROTEIN	SIMIAN SARCOMA VIRUS	223-261								
PFB2_ADE74	GAG POLYPROTEIN	SIMIAN RETROVIRUS SRV-1	184-211	321-348							
PFB2_ADE75	PROBABLE HELICASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	418-449								
PFB2_ADE76	PROBABLE HELICASE	HERPESVIRUS SAIMIRI (STRAIN 11)	490-517	701-728							
PFB2_ADE77	PROBABLE HELICASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	208-242								
PFB2_ADE78	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONA VIRUS (STRAIN F15)	208-242								
PFB2_ADE79	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONA VIRUS (STRAIN LY-118)	208-242								
PFB2_ADE80	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONA VIRUS (STRAIN MEBUS)	208-242								

PGENE	10/17/84	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
HEMA CVBQ	HEMA GGLUTININ-ESTERASE PRECURSOR	BOVINE CORONA VIRUS (STRAIN QUEBEC)	208-242								
HEMA CVHC	HEMA GGLUTININ-ESTERASE PRECURSOR	HUMAN CORONA VIRUS (STRAIN OC43)	208-242								
HEMA JAAC	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/IC11/768)	387-453								
HEMA JABN	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ABANGKOK/179)	24-51	371-437							
HEMA JABD	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ABUDGERGAR/HOKKAI/177)	381-451								
HEMA JACB	HEMA GGLUTININ	INFLUENZA A VIRUS (STRAIN ACAMEL/MONGOLIA/82)	9-36								
HEMA JACA	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ACHICKEN/ALABAMA/175)	381-451								
HEMA JACG	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ACHICKEN/GERMANY/49)	31-58	382-441	494-528						
HEMA JACP	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ACHICKEN/PENNSYLVANIA/1181)	396-426								
HEMA JACQ	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ACHICKEN/PENNSYLVANIA/1170K1)	396-426								
HEMA JAD1	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ACHICKEN/VICTORIA/185)	119-146	384-443							
HEMA JADA	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/ALBERTA/2876)	381-451								
HEMA JAD2	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/ALBERTA/6076)	423-453	499-543							
HEMA JAD3	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/ALBERTA/7876)	387-453								
HEMA JAD4	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/ALBERTA/3576)	29-56	418-478							
HEMA JAD5	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/CZECHOSLOVAKIA/56)	381-451								
HEMA JAD6	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/ENGLAND/1156)	21-55	402-453	506-533						
HEMA JAD7	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HOKKAI/DO/377)	371-437								
HEMA JAD8	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HOKKAI/DO/860)	371-437								
HEMA JAD9	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HOKKAI/DO/73/80)	371-437								
HEMA JAD10	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HOKKAI/DO/783)	371-437								
HEMA JAD11	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HOKKAI/DO/182)	371-437								
HEMA JAD12	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HOKKAI/DO/9/85)	371-437								
HEMA JAD13	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HOKKAI/DO/10/85)	371-437								
HEMA JAD14	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/IRELAND/11/383)	415-445								
HEMA JAD15	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/MEMPHIS/34676)	21-56								
HEMA JAD16	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/MEMPHIS/92874)	387-453								
HEMA JAD17	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/MANITOBA/11/53)	31-58								
HEMA JAD18	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/NEW YORK/12/78)	21-55								
HEMA JAD19	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/NEW ZEALAND/31/76)	381-451								
HEMA JAD20	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/UKRAINE/1/60)	21-55								
HEMA JAD21	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/UKRAINE/1/63)	387-453								
HEMA JAD22	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ENGLAND/878/69)	24-51								
HEMA JAD23	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ENGLAND/221/77)	40-67	387-453							
HEMA JAD24	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/AFOWL PLAGUE VIRUS/ROSTOCK/34)	177-221	384-442							
HEMA JAD25	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/AGREY TEAL/AUSTRALIA/2/79)	381-451								
HEMA JAD26	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AGULL/MARYLAND/704/77)	505-532								
HEMA JAD27	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AGULL/ASTRAKHAN/22/784)	504-531								
HEMA JAD28	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/ALGIERS/72)	386-452								
HEMA JAD29	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/HARBIN/1/88)	29-56								
HEMA JAD30	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/CAMBRIDGE/1/63)	29-56	194-221	388-457						
HEMA JAD31	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/CAMBRIDGE/1/73)	29-56	194-221	388-457						
HEMA JAD32	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/C/DETROIT/1/64)	29-56	194-221	388-457						
HEMA JAD33	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/DETROIT/1/64)	29-56	194-221	388-457						
HEMA JAD34	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/FONTAINEBLEAU/76)	386-452								
HEMA JAD35	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/2/86)	386-452								
HEMA JAD36	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/7/87)	386-452								
HEMA JAD37	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/LEINGTON/1/66)	29-56	194-221	388-457						
HEMA JAD38	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1/41/673)	29-56	194-221	388-457						
HEMA JAD39	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/MAMUI/1/63)	386-452								
HEMA JAD40	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/NEW MARKET/776)	386-452								
HEMA JAD41	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/NEW MARKET/1/77)	29-56	194-221	388-457						
HEMA JAD42	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAJUE/1/56)	29-56	194-221	388-457						
HEMA JAD43	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/ROMANIA/80)	386-452								
HEMA JAD44	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SANTIAGO/1/85)	386-452								
HEMA JAD45	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SAO PAULO/1/76)	29-56	194-221	388-457						
HEMA JAD46	HEMA GGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SWITZERLAND/13/772)	29-56	194-221	388-457						

PCGENE	1071784	PROTEIN	All Viruses (no bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME			VIRUS									
PIC18_HSV5A	PROBABLE PROC & TRANSPORT PRO	HERPESVIRUS SAMIRI (STRAIN 11)		58-85	482-522							
PIC18_MCMV5	PROB PROC & TRANSPORT PRO	MURINE CYTOMEGALOVIRUS (STRAIN SMITH1)		661-691								
PIE63_HSV11	TRANSCRIPTIONAL REGULATOR IE63	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)		248-275								
PIE68_HSV11	IMMEDIATE-EARLY PROTEIN IE64	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)		40-67								
PIE68_HSV5A	IMMEDIATE-EARLY PROTEIN	HERPESVIRUS SAMIRI (STRAIN 11)		48-78								
PIE05_HCMVA	HYPOTHETICAL PROTEIN IRL3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)		22-49								
PIR12_HCMVA	HYPOTHETICAL PROTEIN IRL12	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)		74-162								
PIR13_HCMVA	HYPOTHETICAL PROTEIN IRL13	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)		31-62								
PKFES_FSVGA	TYROSINE KINASE TRANSF PROTEIN FES	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARKS TEIN)		106-150								
PKFGR_FSVGR	TYROSINE KINASE TRANSF PROTEIN FGR	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARKS TEIN)		218-252								
PKFMS_FSVMD	FMS TYROSINE KINASE TRANSF PROTEIN	FELINE SARCOMA VIRUS (STRAIN NCDONOUGH)		327-362								
PKFMS_FSVJF	TYROSINE KINASE TRANSF PROTEIN FPS	FELINE SARCOMA VIRUS		155-243	349-397							
PKITH_AMEPV	THYMIDINE KINASE	AMISACTA MOOREI ENTOMOPHAGUS		47-84								
PKITH_CAPVK	THYMIDINE KINASE	CAPRIPOXVIRUS (STRAIN KS-1)		41-68								
PKITH_HSV5A	THYMIDINE KINASE	HERPESVIRUS SAMIRI (STRAIN 11)		340-386								
PKITH_LTYT	THYMIDINE KINASE	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE VR82)		334-361								
PKR74_HSV11	GENE 74 PROTEIN KINASE	ICTALURID HERPESVIRUS 1		491-518								
PKR81_VACCC	30 KD PROTEIN KINASE HOMOLOG	VACCINIA VIRUS (STRAIN COPENHAGEN)		141-168								
PKR81_VACCC	30 KD PROTEIN KINASE HOMOLOG	VACCINIA VIRUS (STRAIN WR)		141-168								
PKR82_VACCC	POSSIBLE PROTEIN KINASE B12	VACCINIA VIRUS (STRAIN COPENHAGEN)		147-174								
PKR82_VACCC	POSSIBLE PROTEIN KINASE B12	VACCINIA VIRUS (STRAIN WR)		147-174								
PKR82_VACCC	POSSIBLE PROTEIN KINASE F10	VACCINIA VIRUS (STRAIN COPENHAGEN)		47-74								
PKR82_VACCC	POSSIBLE PROTEIN KINASE F10	VACCINIA VIRUS (STRAIN COPENHAGEN)		47-74								
PKR82_VACCC	POSSIBLE PROTEIN KINASE F10	VARIOLA VIRUS		111-138								
PKR85_AVISU	ROS TYROSINE KINASE TRANSF PROTEIN	AVIAN SARCOMA VIRUS (STRAIN UR2)		22-49								
PKR85_AVISU	TYROSINE KINASE TRANSF PROTEIN RYK	AVIAN RETROVIRUS RPL30		199-233								
PKYES_AVISY	TYROSINE KINASE TRANSF PROTEIN YES	AVIAN SARCOMA VIRUS (STRAIN Y73)		386-413								
PL100_ADE02	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2		386-413								
PL100_ADE03	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 3		386-413								
PL100_ADE40	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 40		191-231								
PL100_ADE41	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 41		206-233								
PLMP1_EBV	LATENT MEMBRANE PROTEIN 1	EPSTEIN-BARR VIRUS (STRAIN B95-8)		148-175								
PLMP1_EBVC	LATENT MEMBRANE PROTEIN 1	EPSTEIN-BARR VIRUS (STRAIN CAO)		148-175								
PLMP1_EBVR	LATENT MEMBRANE PROTEIN 1	EPSTEIN-BARR VIRUS (STRAIN RAJ1)		148-175								
PLMP2_EBV	GENE TERMINAL PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)		294-321								
PMCEL_STYKA	MRNA CAPPING ENZYME, LARGE SUBUNIT	SHOPE FIBROMA VIRUS (STRAIN KASZA)		54-156	289-316	497-524	622-656					
PMCEL_VACCC	MRNA CAPPING ENZYME, LARGE SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)		85-112	291-318	630-657						
PMCEL_VACCC	MRNA CAPPING ENZYME, LARGE SUBUNIT	VACCINIA VIRUS (STRAIN WR)		85-112	291-318	630-657						
PMCEL_VAVR	MRNA CAPPING ENZYME, LARGE SUBUNIT	VARIOLA VIRUS		85-112	291-318	630-657						
PMCE_ASF87	MRNA CAPPING ENZYME	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)		279-313								
PMOVP_CGMV5	MOVEMENT PROTEIN	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN W)		170-197								
PMOVP_CGMVW	MOVEMENT PROTEIN	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN SH)		170-197								
PMOVP_ORSV	MOVEMENT PROTEIN	ODONTOGLOSSUM RINGSPOT VIRUS		53-90								
PMOVP_TOMVA	MOVEMENT PROTEIN	TOMATO MOSAIC VIRUS (STRAIN LIJA)		46-80								
PMOVP_TOMVL	MOVEMENT PROTEIN	TOMATO MOSAIC VIRUS (STRAIN LIJ)		46-80								
PMTC1_CHVNI	MODIFICATION METHYLASE CVIB1	CHLORELLA VIRUS NC-1A		143-170	229-256							
PMTC1_CHVPI	MODIFICATION METHYLASE CVIPI	PARAMECIUM BURSARIA CHLORELLA VIRUS 1		4-31	130-172							
PMTC_AVM42	MYC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS CMII		232-266	375-402							
PMTC_AVM4C	MYC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS MC29		233-267	376-403							
PMTC_AVM4D	MYC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS HBI		233-267	376-403							
PMTC_AVM6E	MYC TRANSFORMING PROTEIN	AVIAN RETROVIRUS MH2E21		239-268	377-404							
PMTC_AVM6K	MYC TRANSFORMING PROTEIN	AVIAN RETROVIRUS OK10		227-261	370-397							
PMTC_FLV	MYC TRANSFORMING PROTEIN	FELINE LEUKEMIA VIRUS		393-420								
PMTC_FLVTT	MYC TRANSFORMING PROTEIN	FELINE LEUKEMIA PROVIRUS FTT		393-420								
PNCAP_BEV	NUCLEOCAPSID PROTEIN	BERNE VIRUS		49-76	129-156							
PNCAP_BUNLC	NUCLEOCAPSID PROTEIN	BUNYA VIRUS LA CROSSE		85-112								
PNCAP_BUNSH	NUCLEOCAPSID PROTEIN	BUNYA VIRUS SNOWSHOE HARE		96-123								
PNCAP_BUNYW	NUCLEOCAPSID PROTEIN	BUNYA VIRUS		48-75	189-220							

PCGENE	1071784	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PNCAP CCHV	NUCLEOCAPSID PROTEIN	CRIMINAL-CONGO HEMORRHAGIC FEVER VIRUS (ISOLATE C68031)	223-271								
PNCAP CDOV	NUCLEOCAPSID PROTEIN	CANINE DISTEMPER VIRUS (STRAIN ONDIESTERPOORT)	140-174								
PNCAP CHAV	NUCLEOCAPSID PROTEIN	CHANDIPURA VIRUS (STRAIN I65314)	40-74								
PNCAP CYCAE	NUCLEOCAPSID PROTEIN	CANINE ENTERIC CORONAVIRUS (STRAIN K378)	191-227								
PNCAP CYPFU	NUCLEOCAPSID PROTEIN	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONA VIRUS (STRAIN PURD)	191-227								
PNCAP CYPH8	NUCLEOCAPSID PROTEIN	PORCINE RESPIRATORY CORONA VIRUS (STRAIN 86137004 / BRITISH ISOLAT	191-227								
PNCAP CYPBM	NUCLEOCAPSID PROTEIN	PORCINE RESPIRATORY CORONA VIRUS (STRAIN 844)	191-227								
PNCAP DUGBY	NUCLEOCAPSID PROTEIN	DUGBE VIRUS	238-265								
PNCAP FIV	NUCLEOCAPSID PROTEIN	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	182-209								
PNCAP HAZV	NUCLEOCAPSID PROTEIN	HAZARA VIRUS (ISOLATE C180)	6-33	256-283							
PNCAP HRSV	NUCLEOCAPSID PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18337)	4-31	74-108	112-141						
PNCAP LASSG	NUCLEOCAPSID PROTEIN	LASSA VIRUS (STRAIN GA391)	64-99	147-174							
PNCAP LASSJ	NUCLEOCAPSID PROTEIN	LASSA VIRUS (STRAIN JOSIAH)	64-99	467-504							
PNCAP LYCYA	NUCLEOCAPSID PROTEIN	LYMPHOCTIC CHORIOMENINGITIS VIRUS (STRAIN ARASTRONG)	64-97								
PNCAP MAGV	NUCLEOCAPSID PROTEIN	MAGUAKI VIRUS	41-68	192-219							
PNCAP MOPEI	NUCLEOCAPSID PROTEIN	MOPELA VIRUS	64-99								
PNCAP PIHC	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	377-404	455-482							
PNCAP PIHW	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN WASHINGTON/1957)	377-404	444-488							
PNCAP PUH4	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 74885)	376-403								
PNCAP PTPV	NUCLEOCAPSID PROTEIN	PUNTA TORO PHLEBOVIRUS	3-30								
PNCAP PUUMH	NUCLEOCAPSID PROTEIN	PUMALA VIRUS (STRAIN HALLNAS B1)	2-29								
PNCAP PUUMS	NUCLEOCAPSID PROTEIN	PUMALA VIRUS (STRAIN SOTKANO)	2-29								
PNCAP PVM	NUCLEOCAPSID PROTEIN	PNEUMONIA VIRUS OF MICE	93-120								
PNCAP RABVA	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN AVOI)	133-167								
PNCAP RABVP	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN P.V)	133-167								
PNCAP RABVS	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN SAD B19)	133-167								
PNCAP SENDS	NUCLEOCAPSID PROTEIN	SENDAL VIRUS (STRAIN Z / HOST MUTANTS)	363-404								
PNCAP SENDZ	NUCLEOCAPSID PROTEIN	SENDAL VIRUS (STRAIN Z)	363-404								
PNCAP SFSV	NUCLEOCAPSID PROTEIN	SANDFLY FEVER SICILIAN VIRUS	4-31	507-534							
PNCAP SV41	NUCLEOCAPSID PROTEIN	SIMIAN VIRUS 41	50-77								
PNCAP TACV	NUCLEOCAPSID PROTEIN	TACARIBE VIRUS	6-33								
PNCAP TOSV	NUCLEOCAPSID PROTEIN	TOSCANA VIRUS	68-102								
PNCAP ULUK	NUCLEOCAPSID PROTEIN	ULUKUNEMI VIRUS	284-314								
PNCAP VHSV0	NUCLEOCAPSID PROTEIN	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN 07-21)	149-176	284-314							
PNCAP VHSVM	NUCLEOCAPSID PROTEIN	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN NAKAH)	56-83								
PNCAP VSVIG	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN GLASGOW	67-94	318-365							
PNCAP VSVIO	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN OGDEN	56-83								
PNCAP VSVSI	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (STRAIN SAN JUAN)	81-119								
PNEF HV1EL	NEGATIVE FACTOR	HUMAN DUMONDEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	81-119								
PNEF HVIND	NEGATIVE FACTOR	HUMAN DUMONDEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	86-124								
PNEF HVIZ6	NEGATIVE FACTOR	HUMAN DUMONDEFICIENCY VIRUS TYPE 1 (ZAIRE 6 ISOLATE)	96-137								
PNEF SV41	NEGATIVE FACTOR	SIMIAN DUMONDEFICIENCY VIRUS (ISOLATE AGM / CLONE GRL-1)	47-81								
PNRAM JABDA	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN ABLACK DUCK/AUSTRALIA/702/78)	31-64								
PNRAM JACAO	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN ACAMELMONGOLIA/82	16-43	50-91							
PNRAM JACHI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN ACHILE/1/83)	51-81								
PNRAM JADAI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN ADUCK/ALBERTA/287/6)	21-48								
PNRAM JADGE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN ADUCK/GERMANY/49)	10-48	52-80	197-224						
PNRAM JAFPW	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN AFOWL PLAGUE VIRUS/WEYBRIDGE)	197-224	386-413							
PNRAM JAHCO	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN AVEQUINE/COR/167/4)	5-44	46-76	364-400						
PNRAM JAHK1	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN AVEQUINE/KENTUCKY/1/81)	50-81								
PNRAM JAKIE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN AKIEV/59/79)	16-43								
PNRAM JALEN	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN ALENINGRAD/54/1)	50-81								
PNRAM JAMEI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN ANEMPHIS/17/1H-ABRELLAM/42N)	16-43	50-81							
PNRAM JAPAR	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN APAROTULSTER/73)	16-43	50-81							
PNRAM JAPUE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN APUERTO RICO/87/4)	16-43								

PCGENE	1071/784	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PPOLQ_EMCV	GENOME POLYPYRROTEIN	ENCEPHALOMYOCARDITIS VIRUS	70-108	1484-1518	1522-1563						
PPOLQ_EMCVB	GENOME POLYPYRROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-B NONDIABETOGENIC)	70-97	1486-1520	1524-1565						
PPOLQ_EMCVD	GENOME POLYPYRROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-D DIABETOGENIC)	70-97	1486-1520	1524-1565						
PPOLQ_ENMG3	GENOME POLYPYRROTEIN	MENGO ENCEPHALOMYOCARDITIS VIRUS (STRAIN 37A)	70-108								
PPOLQ_ENMGO	GENOME POLYPYRROTEIN	MENGO ENCEPHALOMYOCARDITIS VIRUS	3-41								
PPOLQ_FMDV1	GENOME POLYPYRROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A10-61)	302-329	1119-1146							
PPOLQ_FMDVA	GENOME POLYPYRROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A12)	301-328	1119-1146							
PPOLQ_FMDV0	GENOME POLYPYRROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAINS OIK AND O10F5)	1119-1146								
PPOLQ_FMDV5	GENOME POLYPYRROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN CI-SANTA PAULI C.581)	101-128								
PPOLQ_HCV1	GENOME POLYPYRROTEIN	HEPATITIS C VIRUS (ISOLATE 1)	702-729								
PPOLQ_HCVA	GENOME POLYPYRROTEIN	HOG CHOLERA VIRUS (STRAIN AL FORT)	699-726	1195-1232	1303-1333	1434-1461	3068-3095	3406-3440			
PPOLQ_HCVB	GENOME POLYPYRROTEIN	HOG CHOLERA VIRUS (STRAIN BRESICA)	699-726	1195-1232	3068-3095	3406-3440	1512-1559				
PPOLQ_HCVBK	GENOME POLYPYRROTEIN	HEPATITIS C VIRUS (ISOLATE RK)	702-729	1045-1072							
PPOLQ_HCV11	GENOME POLYPYRROTEIN	HEPATITIS C VIRUS (ISOLATE 11)	702-729	1045-1072							
PPOLQ_HCV10	GENOME POLYPYRROTEIN	HEPATITIS C VIRUS (ISOLATE 10)	374-401	2089-2116							
PPOLQ_HCV10	GENOME POLYPYRROTEIN	HEPATITIS C VIRUS (ISOLATE HC-10)	1049-1076	2089-2116							
PPOLQ_HCV1A	GENOME POLYPYRROTEIN	HEPATITIS C VIRUS (ISOLATE JAPANESE)	378-405	702-729	1045-1072						
PPOLQ_HCV1T	GENOME POLYPYRROTEIN	HEPATITIS C VIRUS (ISOLATE HC-1T)	702-729	1045-1072							
PPOLQ_HCV1W	GENOME POLYPYRROTEIN	HEPATITIS C VIRUS (ISOLATE TAIWAN)	702-729	1045-1072							
PPOLQ_HP4V2	GENOME POLYPYRROTEIN	HEPATITIS A VIRUS (STRAIN 24A)	203-237	1021-1048	1117-1149	1454-1481					
PPOLQ_HP4V4	GENOME POLYPYRROTEIN	HEPATITIS A VIRUS (STRAIN 41C)	203-237	1021-1048	1117-1149	1454-1481					
PPOLQ_HP4V1	GENOME POLYPYRROTEIN	HEPATITIS A VIRUS (STRAIN 18F)	203-237	1021-1048	1117-1149	1454-1481					
PPOLQ_HP4V3	GENOME POLYPYRROTEIN	HEPATITIS A VIRUS (STRAIN CR36)	203-237								
PPOLQ_HP4V6	GENOME POLYPYRROTEIN	HEPATITIS A VIRUS (STRAIN GA76)	182-216								
PPOLQ_HP4V11	GENOME POLYPYRROTEIN	HEPATITIS A VIRUS (STRAIN 104-175)	203-237	1021-1048	1103-1149						
PPOLQ_HP4V10	GENOME POLYPYRROTEIN	HEPATITIS A VIRUS (STRAIN LA)	203-237	1021-1048	1103-1149						
PPOLQ_HP4V10	GENOME POLYPYRROTEIN	HEPATITIS A VIRUS (STRAIN NBB)	203-237	1021-1048	1103-1149						
PPOLQ_HP4V5	GENOME POLYPYRROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN AGM-27)	207-241	1025-1052	1115-1192						
PPOLQ_HP4V7	GENOME POLYPYRROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN CY-145)	203-237								
PPOLQ_HRV14	GENOME POLYPYRROTEIN	HUMAN RHINOVIRUS 14	17-44	559-586	632-679	1877-1904					
PPOLQ_HRV18	GENOME POLYPYRROTEIN	HUMAN RHINOVIRUS 18	1132-1159	1855-1882							
PPOLQ_HRV2	GENOME POLYPYRROTEIN	HUMAN RHINOVIRUS 2	1125-1152	1552-1593							
PPOLQ_HRV9	GENOME POLYPYRROTEIN	HUMAN RHINOVIRUS 9	883-910	1141-1168	1366-1607	1862-1889					
PPOLQ_HRV7	GENOME POLYPYRROTEIN	HUMAN ENTEROVIRUS 70 (STRAIN 167071)	876-910								
PPOLQ_IBDV0	STRUCTURAL POLYPYRROTEIN	AYUAN INFECTION BURSAL DISEASE VIRUS (STRAIN OH)	231-277								
PPOLQ_JAEV1	GENOME POLYPYRROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA-14)	214-248	983-1010	2796-2823						
PPOLQ_JAEV3	GENOME POLYPYRROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA-14)	214-248	983-1010	2796-2823						
PPOLQ_JAEV1	GENOME POLYPYRROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN JADARS982)	214-248	983-1010	2796-2823						
PPOLQ_JAEV1	GENOME POLYPYRROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN NAKAYAMA)	141-175	911-938							
PPOLQ_KUNIM	GENOME POLYPYRROTEIN	KUNIN VIRUS (STRAIN KRM61C)	980-1007								
PPOLQ_LANV1	GENOME POLYPYRROTEIN	LANGAT VIRUS (STRAIN TP21)	431-465	1634-1661							
PPOLQ_LANV1	GENOME POLYPYRROTEIN	LANGAT VIRUS (STRAIN YELANTSEV)	431-465								
PPOLQ_LIV	GENOME POLYPYRROTEIN	LOUPING ILL VIRUS	431-465								
PPOLQ_LIVSB	GENOME POLYPYRROTEIN	LOUPING ILL VIRUS (STRAIN SB 526)	151-185								
PPOLQ_MCA	GENOME POLYPYRROTEIN	MOSQUITO CELL FUSING AGENT	671-698	3056-3083	3303-3330						
PPOLQ_MDMV	GENOME POLYPYRROTEIN	MAIZE DWARF MOSAIC VIRUS	10-37								
PPOLQ_MVEV	GENOME POLYPYRROTEIN	MURRAY VALLEY ENCEPHALITIS VIRUS	212-256								
PPOLQ_ONV	GENOME POLYPYRROTEIN	ORNTHO GALUM MOSAIC VIRUS	24-51	946-973							
PPOLQ_PEMVC	GENOME POLYPYRROTEIN	PEPPER MOTTLE VIRUS (CALIFORNIA ISOLATE)	377-404	704-738	831-858	900-927	1167-1201	1485-1512	1787-1814	2433-2464	
PPOLQ_POLIM	GENOME POLYPYRROTEIN	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	1060-1100	1901-1931							
PPOLQ_POLIS	GENOME POLYPYRROTEIN	POLIOVIRUS TYPE 1 (STRAIN SABIN)	670-697	1063-1101	1903-1933						
PPOLQ_POL2L	GENOME POLYPYRROTEIN	POLIOVIRUS TYPE 2 (STRAIN LANSING)	1061-1099	1901-1931							
PPOLQ_POL2W	GENOME POLYPYRROTEIN	POLIOVIRUS TYPE 2 (STRAIN W-2)	1061-1099	1901-1931							
PPOLQ_POL32	GENOME POLYPYRROTEIN	POLIOVIRUS TYPE 3 (STRAIN 2127)	1060-1098	1900-1930							
PPOLQ_POL3L	GENOME POLYPYRROTEIN	POLIOVIRUS TYPE 3 (STRAINS PJLEON77 AND PJLEON 12A11B)	1060-1098	1900-1930							
PPOLQ_PPVD	GENOME POLYPYRROTEIN	PLUM POX POTYVIRUS (STRAIN D)	921-948	1498-1525	2771-2798						
PPOLQ_PPVEA	GENOME POLYPYRROTEIN	PLUM POX POTYVIRUS (STRAIN EL AMAR)	1146-1187								

PCGENE	107178-4	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PPOLG_PPVNA	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (ISOLATE NAT)	920-947	1497-1524	2770-2800						
PPOLG_PPVRA	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (STRAIN RANKOVIC)	920-947	1497-1524	2770-2797						
PPOLG_PPVRI	GENOME POLYPROTEIN	PAPAYA RINGSPOT VIRUS (STRAIN P / MUTANT IIA)	500-527								
PPOLG_PPVPI	GENOME POLYPROTEIN	PAPAYA RINGSPOT VIRUS (STRAIN P / MUTANT IIA 3-1)	391-418								
PPOLG_PPVPI	GENOME POLYPROTEIN	PAPAYA RINGSPOT VIRUS (STRAIN W)	489-516								
PPOLG_PPVPI	GENOME POLYPROTEIN	PEA SEED-BORNE MOSAIC VIRUS (STRAIN DPDI)	271-315	1132-1177	1510-1537						
PPOLG_PPVPI	GENOME POLYPROTEIN	POTATO VIRUS Y (STRAIN Q (PVV))	433-460	701-735							
PPOLG_PPVPI	GENOME POLYPROTEIN	POTATO VIRUS Y (STRAIN HUNGARIAN)	218-245	433-460	701-735	1486-1513	1777-1811				
PPOLG_PPVPI	GENOME POLYPROTEIN	POTATO VIRUS Y (STRAIN N)	433-460	701-735	1486-1513	1777-1811					
PPOLG_PPVPI	GENOME POLYPROTEIN	POTATO VIRUS Y (STRAIN O)	433-460	701-735							
PPOLG_PPVPI	GENOME POLYPROTEIN	PARSNIP YELLOW FLECK VIRUS (ISOLATE P-121)	1124-1151	2707-2734							
PPOLG_PPVPI	GENOME POLYPROTEIN	SUGARCANE MOSAIC VIRUS (STRAIN SC)	10-37								
PPOLG_PPVPI	GENOME POLYPROTEIN	SWINE VESICULAR DISEASE VIRUS (STRAIN H2 '76)	1024-1060								
PPOLG_PPVPI	GENOME POLYPROTEIN	1024-1060									
PPOLG_PPVPI	GENOME POLYPROTEIN	TICK-BORNE ENCEPHALITIS VIRUS (STRAIN SOFIN)	87-121	234-272	1032-1061	2265-2292	2400-2436				
PPOLG_PPVPI	GENOME POLYPROTEIN	BORNE ENCEPHALITIS VIRUS (WESTERN SUBTYPE)	1632-1659								
PPOLG_PPVPI	GENOME POLYPROTEIN	TOBACCO ETCH VIRUS	845-872	1148-1175	1416-1443	1773-1800					
PPOLG_PPVPI	GENOME POLYPROTEIN	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN BEAN 8386)	79-117	200-227							
PPOLG_PPVPI	GENOME POLYPROTEIN	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN DA)	90-117	200-227							
PPOLG_PPVPI	GENOME POLYPROTEIN	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN GDV1)	90-117	200-227							
PPOLG_PPVPI	GENOME POLYPROTEIN	TURNIP MOSAIC VIRUS	232-262	773-800							
PPOLG_PPVPI	GENOME POLYPROTEIN	TOBACCO VEIN MOTTLING VIRUS	406-433	670-704	2708-2742						
PPOLG_PPVPI	GENOME POLYPROTEIN	WATERMELON MOSAIC VIRUS II	202-229								
PPOLG_PPVPI	GENOME POLYPROTEIN	WEST NILE VIRUS	210-234	3385-3412							
PPOLG_PPVPI	GENOME POLYPROTEIN	YELLOW FEVER VIRUS (STRAIN 17D)	436-463								
PPOLG_PPVPI	GENOME POLYPROTEIN	YELLOW FEVER VIRUS (STRAIN PASTEUR 17D-204)	436-463								
PPOLG_PPVPI	GENOME POLYPROTEIN	ZUCCHINI YELLOW MOSAIC VIRUS	69-96								
PPOLG_PPVPI	GENOME POLYPROTEIN	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	1063-1101	1903-1933							
PPOLG_PPVPI	GENOME POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD DONKEY)	1402-1467	1894-1921							
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	FELINE CALICIVIRUS (STRAIN CF/68 FIV)	445-472								
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	FELINE CALICIVIRUS (STRAIN F9)	1034-1061								
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN BURMA)	219-246	349-376							
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN MEXICO)	219-246	349-376							
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN MYANMAR)	219-246	349-376							
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN PAKISTAN)	218-245	348-375							
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	MIDDELBURG VIRUS	955-982								
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	ONYOM-NGONG VIRUS (STRAIN GULU)	2453-2480								
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS	313-347	1637-1684							
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN NB5092)	1057-1084	1477-1504	2418-2445						
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48)	146-173	1087-1114							
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN THERIEN)	2060-2087								
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	SEALIKI FOREST VIRUS	1154-1181								
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 82-5)	936-970								
PPOLG_PPVPI	NON-STRUCTURAL POLYPROTEIN	WESTERN EQUINE ENCEPHALITIS VIRUS	4-31								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN 5270)	231-258								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN AUSTRALIAN 002-73)	231-258								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN CU-1)	231-258								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN E)	231-258								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN PBG-98)	212-239								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN STC)	231-258								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	ONYOM-NGONG VIRUS (STRAIN GULU)	356-383								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN NB5092)	939-973								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48)	939-973								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 82-5)	1138-1165								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (STRAIN HRSP AND HRLP)	1138-1165								
PPOLG_PPVPI	STRUCTURAL POLYPROTEIN	WESTERN EQUINE ENCEPHALITIS VIRUS	920-947								
PPOLG_PPVPI	POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN MT)	675-706	715-742							

PCGENE	1071178x4	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	886-924								
POL CAEVC	POL POLYPROTEIN	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	886-924								
POL COYMY	POL PUTATIVE POLYPROTEIN	COMBILINA YELLOW MOTTLE VIRUS	333-360	818-865	1075-1102	1178-1205	1313-1347				
POL ELAV9	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1369)	472-505	826-853							
POL ELAVC	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22)	472-505	826-853							
POL ELAVY	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	471-504	825-852							
POL FENVI	POL POLYPROTEIN	FELINE ENDOGENOUS VIRUS ECE1	532-599	627-654							
POL FIVE	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	442-473								
POL FMVD	ENZYMATIC POLYPROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DX5)	401-430								
POL GALV	POL POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	535-562	676-703							
POL HTL1A	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE 1 (STRAIN ATK)	674-712								
POL HTL1C	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE 1 (CARIBBEAN ISOLATE)	674-712								
POL HVIA2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2SF2 ISOLATE)	218-245	620-661							
POL HVIB1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (DH10 ISOLATE)	230-257	637-673							
POL HVIB3	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (DH15 ISOLATE)	230-257	632-673							
POL HVIBR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HUR1 ISOLATE)	230-257	632-673							
POL HVIEL	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	217-244	624-660							
POL HVIH2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE)	218-245	620-661	921-951						
POL HVIR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HRC5F ISOLATE)	222-249	624-665							
POL HVIMA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	217-244	476-510	619-660						
POL HVIMN	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	221-248	621-664							
POL HVINS	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOLATE)	218-245	625-661							
POL HVIND	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	217-244	624-660							
POL HVIOY	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYL ISOLATE)	218-245	620-661							
POL HVIPV	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	230-257	637-673							
POL HVIRH	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF/HAT ISOLATE)	230-257	637-673							
POL HVIU4	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN / ISOLATE U217-244)	217-244	513-540	619-660						
POL HVIZ2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2/CDC-234 ISOLATE)	217-244	619-660							
POL HVZBE	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	491-582								
POL HVZCA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	471-562								
POL HVZD1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	509-600								
POL HVZD2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7)	491-568								
POL HVZG1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	471-562								
POL HVZK2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-2)	471-529								
POL HVZRO	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	472-563								
POL HVZSB	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBLISY)	473-562								
POL HVZST	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	491-582								
POL IPHA	PUTATIVE POL POLYPROTEIN	HAMSTER INTRACISTERNAL A-PARTICLE	200-227	334-381	461-499						
POL IPMA	PUTATIVE POL POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	211-238	302-329	400-427						
POL IPMAI	PROBABLE POL POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	130-157	221-248							
POL JSRV	POL POLYPROTEIN	SHEEP PULMONARY ADENOMATOSIS VIRUS	204-231								
POL MLVAK	POL POLYPROTEIN	AKR MURINE LEUKEMIA VIRUS	451-480								
POL MLVAV	POL POLYPROTEIN	AKY MURINE LEUKEMIA VIRUS	805-832								
POL MLVRO	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	716-743	805-832							
POL MLVRK	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	101-128	190-217							
POL MPAY	POL POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	574-612	670-697							
POL OMVVS	POL POLYPROTEIN	OVINE LENTIVIRUS (STRAIN SA-OMV)	67-94	471-505	871-900						
POL RSP	POL POLYPROTEIN	ROUS SARCOMA VIRUS (STRAIN PRAGUE C)	797-824								
POL RTBV	POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS	7-44	59-93	176-203	202-229	410-437	447-476	1022-1049		
POL RTBVP	POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	7-44	59-93	176-203	202-229	410-437	447-476	1022-1049		
POL SFV1	POL POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	427-454								
POL SIVAI	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	431-458	547-574	637-671						
POL SIVAI3	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM266 ISOLATE)	45-72								
POL SIVAI3	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM385 ISOLATE)	71-98								
POL SIVAG	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	436-463	482-516	642-669						
POL SIVAI	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1 / CLONE GRI-1)	478-515								
POL SIVAT	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	637-691								
POL SIVCZ	POL POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIV(CP2))	242-269	626-685							

PCGENE	1021784	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS									
POL_SIVGB	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	513-560	616-670							
POL_SIVM1	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-43 ISOLATE)	513-560								
POL_SIVM2	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)	513-560								
POL_SIVS4	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (F236/SKH4 ISOLATE)	496-523								
POL_SIVS5	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PB1/RIC13 ISOLATE)	499-526								
POL_SIVS6	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (SMRV-H)	601-628								
POL_SIVS7	POL POLYPROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	268-295	348-419							
POL_SIVS8	POL POLYPROTEIN	SIMIAN RETROVIRUS SRV-1	578-612	670-697							
POL_SIVS9	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514)	490-524	881-919							
POL_SIVS10	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1-1K51)	89-116	490-524	881-919						
POL_SIVS11	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1-1K52)	490-524	881-919							
POL_SIVS12	POL POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	288-315								
POL_SIVS13	POL POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN CH)	45-79								
POL_SIVS14	POL POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	167-201								
POL_SIVS15	POL POLYPROTEIN	BOMBAY MORI CYTOTRASMIC POLYHEDROSIS VIRUS	37-71								
POL_SIVS16	POL POLYPROTEIN	AUTOGRAFA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	13-47								
POL_SIVS17	POL POLYPROTEIN	AGROTIS SEGETUM NUCLEAR POLYHEDROSIS VIRUS	14-48	201-228							
POL_SIVS18	POL POLYPROTEIN	BOMBAY MORI NUCLEAR POLYHEDROSIS VIRUS	12-46								
POL_SIVS19	POL POLYPROTEIN	BUZURA SUPPRESSARIA NUCLEAR POLYHEDROSIS VIRUS	14-48								
POL_SIVS20	POL POLYPROTEIN	HYPHANTHRIA CUREA NUCLEAR POLYHEDROSIS VIRUS	13-40								
POL_SIVS21	POL POLYPROTEIN	LYMANTRIA DISPAR MULTICAPSID NUCLEAR POLYHEDROSIS VIRUS	14-48								
POL_SIVS22	POL POLYPROTEIN	MAMESTRA BRASSICAE NUCLEAR POLYHEDROSIS VIRUS	14-48								
POL_SIVS23	POL POLYPROTEIN	ORGANIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	13-47								
POL_SIVS24	POL POLYPROTEIN	ORGANIA PSEUDOTSUGATA SINGLE CAPSID NUCLEAR POLYHEDROSIS VIRUS	14-48								
POL_SIVS25	POL POLYPROTEIN	PANOLIS FLAMEA MULTIPLE NUCLEOCAPSID POLYHEDROSIS VIRUS	14-48								
POL_SIVS26	POL POLYPROTEIN	SPODOPTERA EXIGUA NUCLEAR POLYHEDROSIS VIRUS (STRAIN US)	14-48								
POL_SIVS27	POL POLYPROTEIN	SPODOPTERA FRUGIPERDA NUCLEAR POLYHEDROSIS VIRUS	14-48								
POL_SIVS28	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	41-68								
POL_SIVS29	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514)	22-62								
POL_SIVS30	POL POLYPROTEIN	AFRICAN SWINE FEVER VIRUS (ISOLATE NALAWI LII, 20/1)	7-41	88-119	363-390						
POL_SIVS31	POL POLYPROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	622-649								
POL_SIVS32	POL POLYPROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	75-102								
POL_SIVS33	POL POLYPROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	324-351								
POL_SIVS34	POL POLYPROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	367-401								
POL_SIVS35	POL POLYPROTEIN	VACCINIA VIRUS (STRAIN WR)	367-401								
POL_SIVS36	POL POLYPROTEIN	VARIOLA VIRUS	367-401								
POL_SIVS37	POL POLYPROTEIN	VARIOLA VIRUS	119-146								
POL_SIVS38	POL POLYPROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	90-117								
POL_SIVS39	POL POLYPROTEIN	BOVINE HERPESVIRUS TYPE 1 (STRAIN 34)	41-68	513-540							
POL_SIVS40	POL POLYPROTEIN	VACCINIA VIRUS (STRAIN WR)	41-75	77-104	513-540						
POL_SIVS41	POL POLYPROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	237-264	587-616	810-837	961-992					
POL_SIVS42	POL POLYPROTEIN	VACCINIA VIRUS (STRAIN WR)	237-264	587-616	810-837	961-992	101-1038				
POL_SIVS43	POL POLYPROTEIN	VARIOLA VIRUS	237-264	587-616	810-837	961-992					
POL_SIVS44	POL POLYPROTEIN	CAPRIPOXYRUS (STRAIN KS-1)	19-45	114-155							
POL_SIVS45	POL POLYPROTEIN	COWPOX VIRUS	211-241	481-509							
POL_SIVS46	POL POLYPROTEIN	VACCINIA VIRUS (STRAIN WR)	211-241	481-509							
POL_SIVS47	POL POLYPROTEIN	VARIOLA VIRUS	211-241	481-509							
POL_SIVS48	POL POLYPROTEIN	VACCINIA VIRUS (STRAIN WR)	36-63								
POL_SIVS49	POL POLYPROTEIN	VARIOLA VIRUS	8-35	43-70							
POL_SIVS50	POL POLYPROTEIN	LELYSTAD VIRUS	1535-1560								
POL_SIVS51	POL POLYPROTEIN	EQUINE ARTERITIS VIRUS	888-915	1639-1673							
POL_SIVS52	POL POLYPROTEIN	INFLUENZA A VIRUS (STRAIN AKOREA/426/68)	575-602								
POL_SIVS53	POL POLYPROTEIN	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	119-146								
POL_SIVS54	POL POLYPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAI/8/80)	119-146								
POL_SIVS55	POL POLYPROTEIN	INFLUENZA A VIRUS (STRAIN A/OWL PLAGUE VIRUS/ROSTOCK/24)	119-146								
POL_SIVS56	POL POLYPROTEIN	INFLUENZA A VIRUS (STRAIN A/GULL/MARYLAND/704/77)	119-146								

PCGENE	10717814	All Viruses (no bacteriophages)									
FILE NAME	PROTEIN	VIRUS									
PRR21_IARLO	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1416/73)									
PRR21_IARTE	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/5/86)									
PRR21_IAKOR	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/KOREA/4/26/68)									
PRR21_IALIE1	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/ENINGRAD/14/57)									
PRR21_IALIE2	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/ENINGRAD/14/57)									
PRR21_IAMAN	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/67/50/78)									
PRR21_IANT6	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/ANT/60/68)									
PRR21_IAP10	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/1/19/79)									
PRR21_IAPUE	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)									
PRR21_IARUD	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/BUDDY TURNSTONE/NEW JERSEY/47/85)									
PRR21_IASIN	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)									
PRR21_IATKM	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/43/78)									
PRR21_IAY7	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/VICTORIA/7/75)									
PRR21_IATWL	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/31)									
PRR21_IAZH2	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/SWINE/10/8/74)									
PRR21_IAZH3	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/SWINE/10/8/74)									
PRR21_IAZI1	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/SWINE/10/8/74)									
PRR21_IATZT	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/26/77)									
PRR21_INBAC	RNA-DIRECTED RNA POL SUB P2	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (COLD-ADAPTED))									
PRR21_INBAD	RNA-DIRECTED RNA POL SUB P2	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (WILD-TYPE))									
PRR21_INBS1	RNA-DIRECTED RNA POL SUB P2	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/22/79)									
PRR21_IABUD	RNA-DIRECTED RNA POL SUB P3	INFLUENZA A VIRUS (STRAIN A/BUDDERIGAR/10/8/77)									
PRR21_IACHI	RNA-DIRECTED RNA POL SUB P3	INFLUENZA A VIRUS (STRAIN A/ACHILLE/1/83)									
PRR21_IAPR	RNA-DIRECTED RNA POL SUB P3	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAQUE/1/56)									
PRR21_IATZT	RNA-DIRECTED RNA POL SUB P3	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/24/77)									
PRR21_INBAC	RNA-DIRECTED RNA POL SUB P3	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (COLD-ADAPTED))									
PRR21_INBAD	RNA-DIRECTED RNA POL SUB P3	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (WILD-TYPE))									
PRR21_INBCE	RNA-DIRECTED RNA POL SUB P3	INFLUENZA C VIRUS (STRAIN C/BERLIN/1/85)									
PRR21_INCU	RNA-DIRECTED RNA POL SUB P3	INFLUENZA C VIRUS (STRAIN C/11/50)									
PRR21_THOGV	RNA-DIRECTED RNA POL SUB P3	THOGOTO VIRUS									
PRR21_CVHZ2	RNA-DIRECTED RNA POLYMERASE	HUMAN CORONAVIRUS (STRAIN 22/96)									
PRR21_CVMJH	RNA-DIRECTED RNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN JHM)									
PRR21_BEV	RNA-DIRECTED RNA POLYMERASE	BERNE VIRUS									
PRR21_CVMAS	RNA-DIRECTED RNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN A59)									
PRR21_CVMJH	RNA-DIRECTED RNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN JHM)									
PRR21_CVPFS	RNA-DIRECTED RNA POLYMERASE	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN FS772)									
PRR21_IBVB	RNA-DIRECTED RNA POLYMERASE	PORCINE INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)									
PRR21_IBVK	RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB523)									
PRR21_BTU10	RNA-DIRECTED RNA POLYMERASE	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)									
PRR21_BUNYW	RNA POLYMERASE	BUNYAMWERA VIRUS									
PRR21_CDVO	RNA POLYMERASE BETA SUBUNIT	CANINE DISTEMP VIRUS (STRAIN ONDERSTEPPOORT)									
PRR21_HANTV	RNA POLYMERASE	HANTAN VIRUS (STRAIN 76-118)									
PRR21_HRSVA	RNA POLYMERASE BETA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)									
PRR21_MABVM	RNA-DIRECTED RNA POLYMERASE	MARBURG VIRUS (STRAIN MUSOKE)									
PRR21_MABVP	RNA-DIRECTED RNA POLYMERASE	MARBURG VIRUS (STRAIN POPP)									
PRR21_MEASE	RNA POLYMERASE BETA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)									
PRR21_MUMPM	RNA POLYMERASE BETA SUBUNIT	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)									
PRR21_NDVB	RNA POLYMERASE BETA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/45)									
PRR21_PZHT	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA)									
PRR21_PZIH	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)									
PRR21_PUDMH	RNA-DIRECTED RNA POLYMERASE	PUUMALA VIRUS (STRAIN HALLNAS B1)									
PRR21_RABVP	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN PV)									
PRR21_RABVS	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN SAD B19)									
PRR21_RDV	RNA-DIRECTED RNA POLYMERASE	RICE DWARF VIRUS									
PRR21_RVPVZ	RNA-DIRECTED RNA POLYMERASE	RIFT VALLEY FEVER VIRUS (STRAIN ZH-448 M12)									
PRR21_SENDS	RNA POLYMERASE BETA SUBUNIT	SENDAI VIRUS (STRAIN Z / HOST MUTANTS)									
PRR21_SENDE	RNA POLYMERASE BETA SUBUNIT	SENDAI VIRUS (STRAIN ENDERS)									

PCGENE	1071284	PROTEIN	1071284	ALL Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PRPPL SENDZ	RNA POLYMERASE BETA SUBUNIT	SENDAL VIRUS (STRAIN Z)	629-636	1082-1116	1729-1756	2145-2180							
PRPPL SEUJ	RNA-DIRECTED RNA POLYMERASE	SEOL VIRUS (STRAIN 80-39)	461-488	564-591	711-758	905-932							
PRPPL SVIVR	RNA POLYMERASE BETA SUBUNIT	SIMIAN VIRUS 3 (STRAIN 21004-WR)	1096-1123	1250-1277	1680-1710	2120-2147							
PRPPL SYNV	RNA POLYMERASE BETA SUBUNIT	SONCHUS YELLOW NET VIRUS	825-859	1092-1119	1490-1520	1973-2000	2080-2107						
PRPPL TSWVB	RNA-DIRECTED RNA POLYMERASE	TOMATO SPOTTED WILT VIRUS (BRAZILIAN ISOLATE CPNH/BR-01)	477-504	542-573	1119-1150	1195-1229	1330-1357	1415-1442	1671-1698	1857-1884	2083-2110		
PRPPL UUK	RNA POLYMERASE	UUKUNIEMI VIRUS	2166-2193	2324-2368	2771-2798								
PRPPL VSVH	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN HAZELH)	142-187	1037-1071	1304-1331								
PRPPL VSVIO	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN OGDEN)	1530-1557	1809-1836									
PRPPL VSVSI	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS (STRAIN SAN JUAN)	1205-1232	1809-1836									
PRPPO ACLSV	RNA-DIRECTED RNA POLYMERASE	APPLE CHLOROTIC LEAF SPOT VIRUS	1540-1567	1768-1798									
PRPPO BWTFV	PUTATIVE RNA-DIR RNA POL	BEE WESTERN YELLOW VIRUS (ISOLATE FL-1)	228-264	564-591									
PRPPO BYDVI	PUTATIVE RNA-DIR RNA POL	BARLEY YELLOW DWARF VIRUS (ISOLATE MAV-PS1)	356-383										
PRPPO BYDVP	PUTATIVE RNA-DIR RNA POL	BARLEY YELLOW DWARF VIRUS (ISOLATE PAV)	772-799										
PRPPO BYDVR	PUTATIVE RNA-DIR RNA POL	BARLEY YELLOW DWARF VIRUS (ISOLATE P-PAV)	772-799										
PRPPO CARAV	PUTATIVE RNA-DIR RNA POL	CARNATION MOTTLE VIRUS	91-127	271-304	667-694								
PRPPO CGMVS	PUTATIVE RNA-DIR RNA POL	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN SI1)	387-414	1040-1067									
PRPPO IDBVS	PUTATIVE RNA-DIR RNA POL	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN 5270)	336-363	392-419									
PRPPO IDBVA	PUTATIVE RNA-DIR RNA POL	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN AUSTRALIAN 002-73)	661-688	717-744									
PRPPO IPNVI	PUTATIVE RNA-DIR RNA POL	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE JASPER)	773-800										
PRPPO IPNVS	PUTATIVE RNA-DIR RNA POL	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE SP)	773-800										
PRPPO LYCVA	RNA POLYMERASE	LYMPHOCTIC CHORIOMENINGITIS VIRUS (STRAIN ARMASTRONG)	834-886	1052-1079									
PRPPO PMMS	PUTATIVE RNA-DIR RNA POL	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN)	402-429	709-736	1072-1099								
PRPPO REOVL	RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 3 / STRAIN DEARING)	61-88										
PRPPO ROTBR	RNA-DIR RNA POL SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN RF)	61-88										
PRPPO ROTBU	RNA-DIR RNA POL SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN UK)	68-95	218-245	791-818								
PRPPO ROTPC	RNA-DIR RNA POL SUBUNIT VP1	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	63-95	218-245	791-841	975-1002							
PRPPO ROTPG	RNA-DIR RNA POL SUBUNIT VP1	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	3-44	75-102	363-390	543-585							
PRPPO ROTSI	RNA-DIR RNA POL SUBUNIT VP1	SIMIAN 11 ROTAVIRUS (STRAIN SAI1)	65-95	102-129	791-839	973-1002							
PRPPO SCVLA	RNA-DIRECTED RNA POLYMERASE	SACCHAROMYCES CEREVISIAE VIRUS L-A	65-95	791-839	973-1002								
PRPPO TACV	RNA POLYMERASE	TACARIBE VIRUS	147-188										
PRPPO THGMV	PUTATIVE RNA-DIR RNA POL	TABACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U2)	161-204	241-271	1107-1134	1978-2008							
PRPPL BRSMV	RNA POLYMERASE ALPHA SUBUNIT	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	230-257	1316-1343	1397-1424								
PRPPL CDOVO	RNA POLYMERASE ALPHA SUBUNIT	CANINE DISTEMPER VIRUS (STRAIN ONDERSTPOORT)	99-133										
PRPPL HRSV	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS	315-370										
PRPPL HRSV1	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS	99-141										
PRPPL HRSVA	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18337)	99-141										
PRPPL HRSVL	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	99-141										
PRPPL MEASE	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN LONG)	99-141										
PRPPL MEASI	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	315-370										
PRPPL MEASV	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN IP-3-CA)	315-370										
PRPPL PIHBB	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN YAMAGATA-1)	315-370										
PRPPL PIHHC	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C15)	84-111	234-261	375-416								
PRPPL PIHHD	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	84-111	234-261	375-416								
PRPPL PIHHE	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN CI-573)	84-111	232-262	375-416								
PRPPL PIHJH	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN CI-14083)	84-111	244-271	375-416								
PRPPL PIHJH	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 2 VIRUS	167-194	222-256									
PRPPL PIHJH	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA)	167-194	222-256									
PRPPL PIH4	RNA POLYMERASE ALPHA SUBUNIT	BOVINE PARAINFLUENZA 3 VIRUS	34-91	255-282	285-314								
PRPPL PIH4A	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	114-144	269-299									
PRPPL PIH4A	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA)	4-38										
PRPPL RABVP	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN PV)	93-127										
PRPPL SEND5	RNA POLYMERASE ALPHA SUBUNIT	SENDAL VIRUS (STRAIN Z / HOST MUTANTS)	330-357	379-420									
PRPPL SEND6	RNA POLYMERASE ALPHA SUBUNIT	SENDAL VIRUS (STRAIN 694)	330-357	379-420									
PRPPL SENDF	RNA POLYMERASE ALPHA SUBUNIT	SENDAL VIRUS (STRAIN FUSHIMI)	330-357	379-420									
PRPPL SENDH	RNA POLYMERASE ALPHA SUBUNIT	SENDAL VIRUS (STRAIN HARRIS)	330-357	379-420									
PRPPL SENDZ	RNA POLYMERASE ALPHA SUBUNIT	SENDAL VIRUS (STRAIN Z)	330-357	379-420									

PCGENE	1071784	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PRPP SVS	RNA POLYMERASE ALPHA SUBUNIT	SIMIAN VIRUS 5 (STRAIN W3)	205-232	236-263							
PSODC VACC	SUPEROXIDE DISMUTASE LIKE PROTEIN	VACCINIA VIRUS (STRAIN WR)	72-99								
PSODC VAR	SUPEROXIDE DISMUTASE LIKE PROTEIN	VARIOLA VIRUS	72-99								
PSHR AMBP	SPHEROIDIN	AMSACTA MOOREI ENTOMOPHAGET	91-118	140-167	227-261	361-390					
PSPI MYXV	SERPIN 1	MYXOMA VIRUS (STRAIN LAUSANNE)	286-313								
PSPI VACC	SERINE PROTEINASE INHIBITOR 2	VACCINIA VIRUS (STRAIN WR)	59-86								
PSPIA VACC	SERINE PROTEINASE INH 2 HOMOLOG	VACCINIA VIRUS (STRAIN COPENHAGEN)	18-65								
PTC2 CHVP	TYPE II RESTRICTION ENZYME CVI11	PARAMETUM BURSARIA CHLORELLA VIRUS 1	16-43								
PTA2 VACC	TRANS-ACTIVATOR PROTEIN A2	VACCINIA VIRUS	95-133								
PTA8 FOWPV	TRANS-ACTIVATOR PROTEIN FPO	FOWLPOX VIRUS	3-51								
PTA8 VACC	TRANS-ACTIVATOR PROTEIN GK1	VACCINIA VIRUS	3-30								
PTA8 VAR	TRANS-ACTIVATOR PROTEIN GK1	VARIOLA VIRUS	3-30								
PTALA BFDV	LARGE T ANTIGEN	BUDGERIGAR FLEDGLING DISEASE VIRUS	291-318								
PTALA POVBO	LARGE T ANTIGEN	BOVINE POLYOMA VIRUS	502-537								
PTALA POVHA	LARGE T ANTIGEN	HAMSTER POLYOMA VIRUS	587-621								
PTALA POVLY	LARGE T ANTIGEN	LYMPHOTROPIC POLYOMA VIRUS	224-258	616-684							
PTALA POVM3	LARGE T ANTIGEN	MOUSE POLYOMA VIRUS (STRAIN 3)	511-540								
PTALA POVMA	LARGE T ANTIGEN	MOUSE POLYOMA VIRUS (STRAIN A2)	511-538								
PTALA POVMC	LARGE T ANTIGEN	MOUSE POLYOMA VIRUS (STRAIN CRAWFORD SMALL-PLAQUE)	508-535								
PTATR NPVAC	TRANS-ACT TRANS REG PROTEIN	MURINE CYTOMEGALOVIRUS (STRAIN AD169)	407-434	489-523	532-559						
PTATR NPVBM	TRANS-ACT TRANS REG PROTEIN	AUTOGRAPIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	412-439	494-528	537-564						
PTATR NPVOP	TRANS-ACT TRANS REG PROTEIN	BOMBAY MORI NUCLEAR POLYHEDROSIS VIRUS	512-554								
PTEGU EBV	LARGE TEGMENT PROTEIN	ORGANIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	145-172	1215-1242	1344-1371	1876-1903					
PTEGU HCMVA	PROBABLE LARGE TEGMENT PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	1251-1281	2202-2229							
PTEGU HSV1	LARGE TEGMENT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	667-694	1673-1710							
PTEGU HSV6	LARGE TEGMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	102-129	228-262	567-611	962-993	1098-1181	1661-1688	1884-1911		
PTEGU HSVB	LARGE TEGMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN G5)	229-256	566-593	1205-1232						
PTEGU HSVSA	PROBABLE LARGE TEGMENT PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	524-607	672-700	777-814	846-898	949-986	990-1017	1467-1497	2102-2135	
PTEGU VZVD	LARGE TEGMENT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	1121-1158	1579-1609							
PTERM ADB07	DNA TERMINAL PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	375-413								
PTMAF AVIS4	TRANSFORMING PROTEIN MAF	HUMAN ADENOVIRUS TYPE 7	302-336								
PTOP1 SVYKA	DNA TOPOISOMERASE I	AVIAN MUSCULOPONEUROTIC FIBROSARCOMA VIRUS AS42	38-65	132-176							
PTOP1 VACC	DNA TOPOISOMERASE I	SHOPE FIBROMA VIRUS (STRAIN KASZA)	38-65								
PTOP1 VARV	DNA TOPOISOMERASE I	VACCINIA VIRUS	38-65								
PTOP2 ASFN2	DNA TOPOISOMERASE II	VARIOLA VIRUS	38-65								
PTTSY HSVAT	THYMIDYLATE SYNTHASE	AFRICAN SWINE FEVER VIRUS (ISOLATE MALAWI LIL 20/1)	902-936								
PUL06 EBV	THYMIDYLATE SYNTHASE	HERPESVIRUS ATELES	116-143								
PUL06 HSV11	VIRION PROTEIN BBF1	HERPESVIRUS SAIMIRI (STRAIN 11)	120-147								
PUL06 HSVB	VIRION GENE 36 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN B95-8)	115-142	313-340	342-369						
PUL06 HSVSA	VIRION GENE 43 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	586-613								
PUL08 HCMVA	HYPOTHETICAL PROTEIN UL3	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	640-667								
PUL11 EBV	HYPOTHETICAL PROTEIN BBF1	HERPESVIRUS SAIMIRI (STRAIN 11)	15-42	302-338	368-402						
PUL13 HCMVA	HYPOTHETICAL PROTEIN UL13	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	15-42								
PUL14 HSVB	HYPOTHETICAL GENE 48 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	347-374								
PUL14 VZVD	HYPOTHETICAL GENE 46 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	247-286								
PUL16 HCMVA	HYPOTHETICAL PROTEIN UL16	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	64-101								
PUL20 HCMVA	HYPOTHETICAL PROTEIN UL16	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	81-112								
PUL21 HSVB	HYPOTHETICAL PROTEIN UL16	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	34-61								
PUL21 VZVD	GENE 38 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	44-71								
PUL25 HSVSA	HYPOTHETICAL PROTEIN UL13	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	380-407								
PUL31 HCMVA	MAJOR ENVELOPE GLYCOPROTEIN 300	HERPESVIRUS SAIMIRI (STRAIN 11)	34-61	204-231	362-389						
PUL32 HSVB	GENE 67 PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	167-194	254-284							
PUL34 HSV11	VIRION PROTEIN UL34	EQUINE HERPESVIRUS TYPE 1	345-375								
PUL34 HSVSA	GENE 67 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	116-143								
PUL34 VZVD	VIRION GENE 24 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	208-235								
PUL35 HCMVA	HYPOTHETICAL PROTEIN UL35	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	112-139								
		HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	535-562								

PCGENE	102417a.4	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PUL37_HSV11	PROTEIN UL37	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	470-497	853-884							
PUL37_HSV11	GENE 23 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AD4F)	715-749	987-1014							
PUL37_HSV11	GENE 63 PROTEIN	HERPESVIRUS SAIMURI (STRAIN 11)	31-45	685-737							
PUL37_HSV11	GENE 21 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	107-134	485-512							
PUL41_VZVD	HOST SHUTOFF VIRION PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	330-364								
PUL42_HSV11	DNA-BINDING PROTEIN UL42	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	231-258								
PUL43_VZVD	GENE 15 MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN AD169)	129-156	312-349							
PUL47_HCMVA	PROTEIN UL47	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	114-148	448-485							
PUL47_HSV11	VIRION PROTEIN UL47	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	488-515								
PUL47_HSV1F	VIRION PROTEIN UL47	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	488-515								
PUL47_HSV6A	97 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 4	190-217								
PUL50_HCMVA	PROTEIN UL50	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	159-186								
PUL52_EBV	PROB DNA REPLICATION PROTEIN BSLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	185-212	787-814							
PUL52_HSV6B	DNA REPLICATION PROTEIN UL52	EQUINE HERPESVIRUS TYPE 1 (STRAIN AU41)	193-220	943-970							
PUL52_HSV5A	PROB DNA REP GENE 36 PROTEIN	HERPESVIRUS SAIMURI (STRAIN 11)	130-157								
PUL53_VZVD	PROB DNA REP GENE 6 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	301-337								
PUL59_HCMVA	HYPOTHETICAL PROTEIN UL59	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	74-101								
PUL70_HCMVA	PROB DNA REP PROTEIN UL70	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	65-92								
PUL71_HCMVA	UL73 GLYCOPROTEIN PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	5-73								
PUL71_HSV5A	HYPOTHETICAL GENE 53 PROTEIN	HERPESVIRUS SAIMURI (STRAIN 11)	9-36								
PUL74_HCMVA	HYPOTHETICAL PROTEIN UL74	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	45-79								
PUL87_EBV	HYPOTHETICAL PROTEIN BICR1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	409-436								
PUL87_HSV6U	HYPOTHETICAL PROTEIN 5R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	536-563	729-768							
PUL87_HSV5A	HYPOTHETICAL GENE 24 PROTEIN	HERPESVIRUS SAIMURI (STRAIN 11)	582-609								
PUL92_EBV	HYPOTHETICAL PROTEIN BDLF4	EPSTEIN-BARR VIRUS (STRAIN B95-8)	107-144	168-196							
PUL92_HSV5A	HYPOTHETICAL GENE 31 PROTEIN	HERPESVIRUS SAIMURI (STRAIN 11)	92-122								
PUL93_HCMVA	PROTEIN UL93	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	26-53	314-381							
PUL95_HCMVA	HYPOTHETICAL PROTEIN UL95	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	17-71								
PUL95_HSV6U	HYPOTHETICAL PROTEIN 13R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	73-100	105-134							
PUL95_HCMVA	VIRION PROTEIN UL104	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	4-31	443-477							
PUL99_HCMVA	HYPOTHETICAL PROTEIN UL119	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	31-78								
PUL99_HCMVA	HYPOTHETICAL PROTEIN UL130	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	90-124								
PUL99_HCMVA	URACIL-DNA GLYCOSYLASE	HERPESVIRUS SAIMURI (STRAIN 11)	135-176								
PUNG_SFVKA	URACIL-DNA GLYCOSYLASE	SHOE FIBROMA VIRUS (STRAIN KASZA)	81-115								
PUNG_VACCC	URACIL-DNA GLYCOSYLASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	85-116	129-156							
PUNG_VACCC	URACIL-DNA GLYCOSYLASE	VACCINIA VIRUS (STRAIN WR)	85-116	129-156							
PUNG_VARV	URACIL-DNA GLYCOSYLASE	VARIOLA VIRUS	85-116								
PUS99_HCMVA	HYPOTHETICAL PROTEIN HXLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	20-47								
PUS14_HCMVA	HYPOTHETICAL PROTEIN HXLF4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	277-308								
PUS18_HCMVA	MEMBRANE PROTEIN HWLF5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	191-218								
PV121_ASFL5	LIS 121-1 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN LIS57)	2-29								
PV125_AMVLE	125 KD PROTEIN	ALFA MOSAIC VIRUS (STRAIN 425 / ISOLATE LEIDEN)	702-729								
PV137_ASFL5	LIS 137 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN LIS57)	2-29								
PV137_TRVPL	16 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN PLB)	59-86								
PV143_NPVAC	HELICASE	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	496-560	945-972							
PV168_TRVPS	16 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN PSQ)	79-113								
PV1A_BBWV	1A PROTEIN	BROAD BEAN MOTTLE VIRUS	22-54	710-737	840-868						
PV1A_BBWV	1A PROTEIN	BROME MOSAIC VIRUS	22-54	384-411	836-863	892-919					
PV1A_CMV	1A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	249-276								
PV1A_CMVFN	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	11-38								
PV1A_CMVQ	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)	11-38	864-902							
PV1A_CMVQ	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)	11-38								
PV1A_PSVJ	1A PROTEIN	PEANUT STUNT VIRUS (STRAIN J)	4-38	372-399							
PV1A_TAV	1A PROTEIN	TOMATO ASPERM VIRUS	11-38	271-298	376-403	857-884					
PV25K_NPVAC	25 KD PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	4-31								
PV29K_PEBV	29.6 KD PROTEIN	PEA EARLY BROWNING VIRUS	140-170								
PV29K_TRVSY	29 KD PROTEIN	TOBACCO RATTLE VIRUS	170-197								

PCGENE	1071784	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	48-75								
PV29K TRVTC	29 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	48-75								
PV2A DBMY	2A PROTEIN	BROAD BEAN MOTTLE VIRUS	101-128								
PV2A CCMV	2A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	176-205								
PV2A CMVN	2A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	792-819								
PV2A PSVI	2A PROTEIN	PEANUT STUNT VIRUS (STRAIN J)	325-352	717-751							
PV2A JAV	2A PROTEIN	TOMATO ASPERM VIRUS	313-340	722-756							
PV30K HCMVE	30 KD MAJOR EARLY PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN EISENHARDT)	194-221								
PV30K TRVTC	29.1 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	130-160								
PV31P ADE41	31 KD PHOSPHOPROTEIN	HUMAN ADENOVIRUS TYPE 41	15-42								
PV36Z ASF87	K362 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	75-102								
PV36Z ASF87	D363 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	31-30	172-199							
PV3A BMV	3A PROTEIN	BROME MOSAIC VIRUS	11-38								
PV3A CMVN	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	222-252								
PV3A CMVM	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN NI)	217-232								
PV3A CMVO	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN O)	222-253								
PV3A CMVY	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Y)	222-253								
PV3A IBVB	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	25-57								
PV3A IBVUS	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN UX18/66)	29-56								
PV3B IBVB	3B PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	6-33								
PV3BK BYDVP	50 KD PROTEIN	BARLEY YELLOW DWARF VIRUS (ISOLATE PAV)	119-146								
PV31K BWYVF	51 KD PROTEIN	BEE WESTERN YELLOW VIRUS (ISOLATE FL-1)	113-147	424-451							
PV31K BWYVF	51 KD PROTEIN	BEE WESTERN YELLOW VIRUS (ISOLATE GRI)	113-147	424-451							
PV34K PLRV1	54 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)	124-151	438-472							
PV34K PLRVW	54 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	124-151	438-477							
PV31K BSMV	51 KD PROTEIN	BARLEY STRIPE MOSAIC VIRUS	128-155								
PV70K PLRV1	69.7 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)	110-140								
PV70K PLRVW	69.7 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	110-140								
PV90K AMVLE	90 KD PROTEIN	ALFALFA MOSAIC VIRUS (STRAIN 425 / ISOLATE LEIDEN)	107-134								
PVA05 VACC	PROTEIN A5	VACCINIA VIRUS (STRAIN COPENHAGEN)	152-216	250-277	283-310	314-355					
PVA05 VACC	PROTEIN A6	VACCINIA VIRUS (STRAIN WR)	156-215	249-276	282-309	313-354					
PVA05 VACC	PROTEIN A6	VARIOLA VIRUS	157-216	250-277	283-310	314-355					
PVA05 VACC	PROTEIN A6	VACCINIA VIRUS (STRAIN COPENHAGEN)	176-206								
PVA05 VACC	PROTEIN A8	VARIOLA VIRUS	176-206								
PVA05 VACC	PROTEIN A9	VARIOLA VIRUS	60-95								
PVA11 VACC	PROTEIN A11	VACCINIA VIRUS (STRAIN COPENHAGEN)	219-283								
PVA11 VACC	PROTEIN A11	VARIOLA VIRUS	220-284								
PVA18 VACC	56 KD ABORTIVE LATE PROTEIN	VARIOLA VIRUS	440-467								
PVA20 VACC	PROTEIN A20	VACCINIA VIRUS (STRAIN COPENHAGEN)	8-67	330-357							
PVA20 VACC	PROTEIN A20	VARIOLA VIRUS	8-67	330-357							
PVA22 VACC	PROTEIN A22	VACCINIA VIRUS (STRAIN COPENHAGEN)	45-72								
PVA22 VACC	PROTEIN A22	VARIOLA VIRUS	56-83								
PVA23 VACC	PROTEIN A23	VACCINIA VIRUS (STRAIN COPENHAGEN)	95-144								
PVA23 VACC	PROTEIN A23	VARIOLA VIRUS	95-144								
PVA23 VACC	PROTEIN A28	VACCINIA VIRUS (STRAIN WR)	22-49								
PVA23 VACC	PROTEIN A28	VARIOLA VIRUS	22-49								
PVA30 VACC	PROTEIN A30	VACCINIA VIRUS (STRAIN WR)	12-55								
PVA31 VACC	PROTEIN A31	VACCINIA VIRUS (STRAIN COPENHAGEN)	88-115								
PVA31 VACC	PROTEIN A31	VARIOLA VIRUS	88-122								
PVA34 VACC	PROTEIN A34	VACCINIA VIRUS (STRAIN COPENHAGEN)	87-114								
PVA34 VACC	PROTEIN A34	VARIOLA VIRUS	87-114								
PVA34 VACC	PROTEIN A34	VARIOLA VIRUS	87-114								
PVA36 VACC	PROTEIN A36 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	120-155								
PVA36 VACC	PROTEIN A36 PRECURSOR	VARIOLA VIRUS	127-154								
PVA38 VACC	PROTEIN A38	VACCINIA VIRUS (STRAIN COPENHAGEN)	44-81								
PVA38 VACC	PROTEIN A38	VARIOLA VIRUS	44-81								
PVA39 VACC	PROTEIN A39	VACCINIA VIRUS (STRAIN COPENHAGEN)	44-91								
PVA39 VACC	PROTEIN A39	VARIOLA VIRUS	37-71	155-182							

PCGENE	107117814	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	VIRUS	75-109	193-220							
PVA39_VACCV	PROTEIN A39	VACCINIA VIRUS (STRAIN WR)	75-109	193-220							
PVA43_VACCC	PROTEIN A43	VACCINIA VIRUS (STRAIN COPENHAGEN)	145-172								
PVA43_VACCV	PROTEIN A43	VACCINIA VIRUS (STRAIN WR)	145-172								
PVA43_VARY	PROTEIN A43	VARIOLA VIRUS	146-173								
PVA47_VACCC	PROTEIN A47	VACCINIA VIRUS (STRAIN COPENHAGEN)	143-184								
PVA47_VACCV	PROTEIN A47	VACCINIA VIRUS (STRAIN WR)	143-184								
PVA47_VARY	PROTEIN A47	VARIOLA VIRUS	142-184								
PVA49_VACCC	PROTEIN A49	VACCINIA VIRUS (STRAIN COPENHAGEN)	61-91								
PVA49_VACCV	PROTEIN A49	VACCINIA VIRUS (STRAIN WR)	61-91								
PVA49_VARY	PROTEIN A49	VARIOLA VIRUS	61-91								
PVA53_VACCC	PROTEIN A53	VACCINIA VIRUS (STRAIN COPENHAGEN)	55-82	126-156	435-462						
PVA53_VACCV	PROTEIN A53	VACCINIA VIRUS (STRAIN WR)	55-82	126-156	435-462						
PVAL1_BCTV	ALI1 PROTEIN	BEET CURLY TOP VIRUS	22-49								
PVAL3_CLVK	ALI1 PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844)	79-106								
PVAL3_CLVN	ALI1 PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	79-106								
PVAL3_SLCV	ALI1 PROTEIN	SQUASH LEAF CURL VIRUS	101-128								
PVAL3_TYLCV	ALI1 PROTEIN	TOMATO YELLOW LEAF CURL VIRUS	79-129								
PVAT_CMYC	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	22-70	93-129							
PVAT_CMYD	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/F)	22-70								
PVAT_CMYE	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BBC)	22-70	93-129							
PVAT_CMYN	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	22-70	93-129							
PVAT_CMYV	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN PV147)	22-70	93-129							
PVAT_CMYV	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN W260)	22-70	93-130							
PVAT_CERY	APHID TRANSMISSION PROTEIN	CARNATION ETCHED RING VIRUS	102-138								
PVAT_FMYD	APHID TRANSMISSION PROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	52-82	103-130							
PVB03_VACCV	PROTEIN B3	VACCINIA VIRUS (STRAIN WR)	108-135								
PVB04_VACCC	PROTEIN B4	VACCINIA VIRUS (STRAIN COPENHAGEN)	92-123	182-211	286-313	324-361					
PVB04_VACCV	PROTEIN B4	VACCINIA VIRUS (STRAIN WR)	92-123	182-211	286-313	324-361					
PVB04_VARY	PROTEIN B4	VARIOLA VIRUS	89-127	182-211	286-313	324-361					
PVB05_VACCV	PLAQUE-SIZE / HOST RANGE PRO PREC	VACCINIA VIRUS (STRAIN LC16M0)	254-284								
PVB05_VACCC	PLAQUE-SIZE / HOST RANGE PRO PREC	VACCINIA VIRUS (STRAIN COPENHAGEN)	254-284								
PVB05_VACCL	PLAQUE-SIZE / HOST RANGE PRO PREC	VACCINIA VIRUS (STRAIN LISTER)	254-284								
PVB05_VACCV	PLAQUE-SIZE / HOST RANGE PRO PREC	VACCINIA VIRUS (STRAIN WR)	254-284								
PVB07_VACCV	PROTEIN B7 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	28-62								
PVB08_VACCC	PROTEIN B8 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	26-53								
PVB08_VACCV	PROTEIN B8 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	26-53								
PVB11_VACCC	PROTEIN B11	VACCINIA VIRUS (STRAIN COPENHAGEN)	21-54								
PVB11_VACCV	PROTEIN B11	VACCINIA VIRUS (STRAIN WR)	21-54								
PVB11_VACCV	PROTEIN B11	COWPOX VIRUS	5-38								
PVB16_COWPX	IL-1 BIND PRO PRECURSOR	COWPOX VIRUS	113-140								
PVB17_VACCC	PROTEIN B17	VACCINIA VIRUS (STRAIN COPENHAGEN)	258-285								
PVB17_VACCV	PROTEIN B17	VACCINIA VIRUS (STRAIN WR)	258-285								
PVB18_VACCC	PROTEIN B18	VACCINIA VIRUS (STRAIN COPENHAGEN)	337-375								
PVB18_VACCV	PROTEIN B18	VACCINIA VIRUS (STRAIN WR)	337-375								
PVB18_VARY	PROTEIN B18	VARIOLA VIRUS	337-375								
PVB19_VACCC	SURFACE ANTIGEN S PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	182-212								
PVB19_VACCD	SURFACE ANTIGEN S PRECURSOR	VACCINIA VIRUS (STRAIN DAUREN1)	180-210								
PVB19_VACCV	SURFACE ANTIGEN S PRECURSOR	VACCINIA VIRUS (STRAIN WR)	180-210								
PVB19_VARY	SURFACE ANTIGEN S PRECURSOR	VARIOLA VIRUS	180-210								
PVB20_VACCC	PROTEIN B20	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-82								
PVB21_VACCV	PROTEIN B21	VACCINIA VIRUS (STRAIN WR)	64-91								
PVB11_BGMV	BL1 PROTEIN	BEAN GOLDEN MOSAIC VIRUS	120-147	248-275							
PVB11_CLVK	BL1 PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844)	118-145								
PVB11_CLVN	BL1 PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	118-145								
PVB11_PMYV	BL1 PROTEIN	POTATO YELLOW MOSAIC VIRUS (ISOLATE VENEZUELA)	120-147								
PVB02_VACCC	PROTEIN C2	VACCINIA VIRUS (STRAIN COPENHAGEN)	405-432								
PVB02_VACCV	PROTEIN C2	VACCINIA VIRUS (STRAIN WR)	41-71	405-432							

PCGENE	10741784	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	VIRUS	209-236	484-515							
PV04_SFVKA	PROTEIN C4	SHOPE FIBROMA VIRUS (STRAIN KASZA)									
PV04_VACC	PROTEIN C4	VACCINIA VIRUS (STRAIN COPENHAGEN)	12-46								
PV04_VACC	PROTEIN C4	VACCINIA VIRUS (STRAIN WR)	12-46								
PV04_VACC	PROTEIN C4	VARIOLA VIRUS	12-46								
PV05_SFVKA	HYPOTHETICAL PROTEIN C3	SHOPE FIBROMA VIRUS (STRAIN KASZA)	152-179								
PV05_VACC	PROTEIN C3	VACCINIA VIRUS (STRAIN COPENHAGEN)	38-65								
PV05_VACC	PROTEIN C3	VACCINIA VIRUS (STRAIN WR)	38-65								
PV05_VACC	PROTEIN C3	VARIOLA VIRUS	36-66								
PV07_VACC	PROTEIN C7	VACCINIA VIRUS (STRAIN WR)	80-111								
PV07_VACC	PROTEIN C7	VARIOLA VIRUS	80-111								
PV09_VACC	PROTEIN C9	VACCINIA VIRUS (STRAIN COPENHAGEN)	42-69	82-116	178-205	232-279	289-323	575-605			
PV09_VACC	PROTEIN C9	VACCINIA VIRUS (STRAIN WR)	42-69	82-116	178-205	232-279	289-323	575-605			
PV10_VACC	PROTEIN C10	VACCINIA VIRUS (STRAIN COPENHAGEN)	136-180								
PV10_VACC	PROTEIN C10	VACCINIA VIRUS (STRAIN WR)	136-180								
PV10_VACC	PROTEIN C10	VARIOLA VIRUS	136-180								
PV11_SFVKA	PROTEIN C13	SHOPE FIBROMA VIRUS (STRAIN KASZA)	3-30	39-66	137-182	206-240					
PV11_SFVKA	PROTEIN C13	VACCINIA VIRUS (STRAIN COPENHAGEN)	111-152								
PV12_VACC	PROTEIN C17/B23	VACCINIA VIRUS (STRAIN COPENHAGEN)	40-74								
PV12_VACC	PROTEIN C18/B24	VACCINIA VIRUS (STRAIN COPENHAGEN)	56-97								
PV13_SFVKA	PROTEIN C19	SHOPE FIBROMA VIRUS (STRAIN KASZA)	72-99								
PV13_SFVKA	PROTEIN C19	VACCINIA VIRUS (STRAIN COPENHAGEN)	299-326								
PV13_SFVKA	PROTEIN C19	VARIOLA VIRUS	847-874								
PV13_SFVKA	PROTEIN C19	EPSTEIN-BARR VIRUS (STRAIN B95-8)	136-170	355-382							
PV13_SFVKA	PROTEIN C19	HERPES SIMPLEX VIRUS (TYPE 6) (STRAIN UGANDA-1102)	769-799								
PV13_SFVKA	PROTEIN C19	HERPES VIRUS SAIMIRI (STRAIN 11)	133-165	199-248							
PV13_SFVKA	PROTEIN C19	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	88-115								
PV13_SFVKA	PROTEIN C19	HUMAN ADENOVIRUS TYPE 2	87-114								
PV13_SFVKA	PROTEIN C19	HUMAN ADENOVIRUS TYPE 5	6-33	184-211	321-348						
PV13_SFVKA	PROTEIN C19	FOWLOX VIRUS (STRAIN FP-1)	240-267	333-360							
PV13_SFVKA	PROTEIN C19	VACCINIA VIRUS (STRAIN COPENHAGEN)	240-267								
PV13_SFVKA	PROTEIN C19	VARIOLA VIRUS	240-267								
PV13_SFVKA	PROTEIN C19	VARIOLA VIRUS	123-150								
PV13_SFVKA	PROTEIN C19	VACCINIA VIRUS (STRAIN COPENHAGEN)	123-150								
PV13_SFVKA	PROTEIN C19	VACCINIA VIRUS (STRAIN WR)	123-160								
PV13_SFVKA	PROTEIN C19	VARIOLA VIRUS	18-52								
PV13_SFVKA	PROTEIN C19	SHOPE FIBROMA VIRUS (STRAIN KASZA)	2-35								
PV13_SFVKA	PROTEIN C19	CARNATION ETCHED RING VIRUS	282-322								
PV13_SFVKA	PROTEIN C19	VARIOLA VIRUS	89-116	437-464							
PV13_SFVKA	PROTEIN C19	VACCINIA VIRUS (STRAIN COPENHAGEN)	89-116	437-464							
PV13_SFVKA	PROTEIN C19	VACCINIA VIRUS (STRAIN WR)	89-116	367-394	437-464						
PV13_SFVKA	PROTEIN C19	VARIOLA VIRUS	60-87								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 18	21-48								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 2A	180-207								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 31	103-130								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 39	55-89								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 41	25-59								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 42	146-173								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 47	21-48								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 57	72-113								
PV13_SFVKA	PROTEIN C19	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	5-34								
PV13_SFVKA	PROTEIN C19	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	17-51								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 5	157-184	334-361							
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 13	61-105	312-342							
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 16	313-340								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 18	159-186								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 1A	159-193								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 2A	304-331								
PV13_SFVKA	PROTEIN C19	HUMAN PAPILLOMAVIRUS TYPE 33									

PCGENE	102-178-4	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVE2 HPV33	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	158-192	327-354							
PVE2 HPV39	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	7-34	323-357							
PVE2 HPV47	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 47	17-51	148-175	276-303						
PVE2 HPV51	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	137-184								
PVE2 HPV57	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 57	166-193								
PVE2 HPV58	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	2-36	309-336							
PVE2 HPV5B	PROBABLE E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5B	17-51								
PVE2 PAPVE	PROBABLE E2 PROTEIN	EUROPEAN ELK PAPILLOMAVIRUS	120-150								
PVE2 PCPV1	E1 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	267-294	327-361							
PVE4 HPV03	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 3	202-229								
PVE4 HPV11	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	81-108								
PVE4 HPV16	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	66-93								
PVE4 HPV18	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	59-86								
PVE4 HPV31	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	75-102								
PVE4 HPV41	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	63-97								
PVE4 HPV5B	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5B	202-229								
PVE5 HPV11	PROBABLE E5A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	30-60								
PVE5 HPV6B	PROBABLE E5A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	30-60								
PVE5 HPV6C	PROBABLE E5A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6C	30-60								
PVE5 HPV35	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	27-54								
PVE5 HPV5B	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5B	11-41								
PVE5 PCPV1	PROBABLE E5 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	35-62								
PVE5 HPV18	E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	75-102								
PVE6 HPV31	E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	69-96								
PVE6 HPV39	E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	71-102								
PVE6 HPV41	E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	119-146								
PVE6 HPV45	E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 45	75-102								
PVE6 HPV51	E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	72-99								
PVE6 HPVME	E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE ME180	71-102								
PVE6 HPVAC	EARLY 94 KD PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 94	620-647								
PVE6 OVIN	VIRAL ENHANCING FACTOR	TRICHOPUS NIGRANTULOSIS VIRUS	411-438								
PVENV DIRV1	ENVELOPE GLYCOPROTEIN PRECURSOR	DHORI VIRUS (STRAIN INDIAN/11/13/61)	318-366								
PVENV EAV	PROBABLE ENVELOPE PROTEIN	EQUINE ARTERITIS VIRUS	120-147								
PVENV THGV	ENVELOPE GLYCOPROTEIN PRECURSOR	THOGOTO VIRUS	313-347								
PVF03 VACC	PROTEIN F3	VACCINIA VIRUS (STRAIN COPENHAGEN)	71-110	185-212							
PVF03 VACC	PROTEIN F3	VACCINIA VIRUS (STRAIN L-IVP)	71-110	185-212							
PVF05 VACC	36 KD MAJOR MEMBRANE PRO PRECURSOR	VACCINIA VIRUS (STRAIN L-IVP)	33-60								
PVF05 VACC	36 KD MAJOR MEMBRANE PRO PRECURSOR	VACCINIA VIRUS (STRAIN WR)	33-60								
PVF06 VAR	PROTEIN F6	VARIOLA VIRUS	10-44								
PVF11 VACC	PROTEIN F11	VACCINIA VIRUS (STRAIN COPENHAGEN)	274-321								
PVF11 VACC	PROTEIN F11	VACCINIA VIRUS (STRAIN L-IVP)	274-321								
PVF11 VAR	PROTEIN F11	VARIOLA VIRUS	274-321								
PVF12 VACC	PROTEIN F12	VACCINIA VIRUS (STRAIN COPENHAGEN)	10-37	113-140	554-581						
PVF12 VACC	PROTEIN F12	VACCINIA VIRUS (STRAIN L-IVP)	10-37	113-140	554-581						
PVF12 VAR	PROTEIN F12	VARIOLA VIRUS	10-37	202-236	554-581						
PVF16 VACC	PROTEIN F16	VACCINIA VIRUS (STRAIN COPENHAGEN)	35-62	152-179							
PVF16 VACC	PROTEIN F16	VACCINIA VIRUS (STRAIN L-IVP)	35-62	152-179							
PVF16 VAR	PROTEIN F16	VARIOLA VIRUS	35-62	149-179							
PVF16 FOWPV	PROTEIN F16	FOWLPOX VIRUS	146-173								
PVF16 ORFNZ	10 KD FUSION PROTEIN	ORF VIRUS (STRAIN NZ2)	59-86								
PVF16 VACC	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	37-64								
PVF16 VACC	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	37-64								
PVG01 VACC	KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	225-252	301-335							
PVG01 VACC	PROTEIN G1	VACCINIA VIRUS (STRAIN COPENHAGEN)	164-191	240-274							
PVG01 VAR	PROTEIN G1	VARIOLA VIRUS	225-252	301-335							
PVG02 VACC	ISATIN-B-TSC DEP PROTEIN	VACCINIA VIRUS (STRAIN WR)	96-123								
PVG02 VAR	ISATIN-B-TSC DEP PROTEIN	VARIOLA VIRUS	96-123								

PCGENE	107178.4	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PV003_HSVED	GENE 1 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AMJ1)	146-176								
PV003_HSVBK	GENE 1 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	146-176								
PV003_VACC	PROTEIN G5	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-75	131-161	225-289	355-389					
PV003_VARV	PROTEIN G5	VARIOLA VIRUS	48-75	124-161	255-289	355-389					
PV007_HSVI	HYPOTH GENE 7 MEMB PRO	ICTALURID HERPESVIRUS 1	71-98								
PV009_VACC	PROTEIN F1	VACCINIA VIRUS (STRAIN COPENHAGEN)	308-338								
PV009_VACCV	PROTEIN F1	VACCINIA VIRUS (STRAIN WIR)	271-301								
PV009_VARV	PROTEIN F1	VARIOLA VIRUS	308-338								
PV013_SPVIR	GENE 12 PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	11-45								
PV017_HSVI	HYPOTHETICAL GENE 17 PROTEIN	ICTALURID HERPESVIRUS 1	171-204								
PV018_HSVI	HYPOTHETICAL GENE 18 PROTEIN	ICTALURID HERPESVIRUS 1	174-208								
PV01_SPVIR	CAPSID PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	260-287								
PV01_SPV4	CAPSID PROTEIN	SPIROPLASMA VIRUS 4	287-314	383-410							
PV022_HSVI	HYPOTHETICAL GENE 22 PROTEIN	ICTALURID HERPESVIRUS 1	371-400	581-622	668-705	766-824					
PV024_HSVI	HYPOTHETICAL GENE 24 PROTEIN	ICTALURID HERPESVIRUS 1	31-58								
PV028_HSVI	HYPOTHETICAL GENE 28 PROTEIN	ICTALURID HERPESVIRUS 1	253-290	497-528							
PV028_AMEPV	HYPOTHETICAL G2R PROTEIN	AMSACTA MOOREI ENTOMOPPOXVIRUS	31-64	91-118							
PV02_SPVIR	GENE 2 PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	285-326								
PV02_SPV4	GENE 2 PROTEIN	SPIROPLASMA VIRUS 4	146-173	175-205	262-310						
PV034_HSVI	HYPOTHETICAL GENE 34 PROTEIN	ICTALURID HERPESVIRUS 1	95-122								
PV037_HSVI	HYPOTHETICAL GENE 37 PROTEIN	ICTALURID HERPESVIRUS 1	442-469								
PV039_HSVI	HYPOTHETICAL GENE 39 PROTEIN	ICTALURID HERPESVIRUS 1	651-678	1088-1115							
PV031_AMEPV	HYPOTHETICAL G3L PROTEIN	AMSACTA MOOREI ENTOMOPPOXVIRUS	2-29								
PV03_SPVIR	GENE 3 PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	15-49								
PV03_SPV4	GENE 3 PROTEIN	SPIROPLASMA VIRUS 4	18-52	87-148							
PV045_HSVSA	HYPOTHETICAL GENE 45 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	138-165								
PV046_HSVI	PROBABLE MAJOR GLYCOPROTEIN	ICTALURID HERPESVIRUS 1	142-169	346-373	897-924	973-1007					
PV048_HSVSA	HYPOTHETICAL GENE 48 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	360-394								
PV048_AMEPV	GAR PROTEIN	AMSACTA MOOREI ENTOMOPPOXVIRUS	4-31								
PV04_SPVIR	GENE 4 PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	116-146								
PV031_HSVI	HYPOTH GENE 51 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	34-61	87-114							
PV032_HSVSA	HYPOTHETICAL GENE 52 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	47-74								
PV036_HSVI	HYPOTHETICAL GENE 56 PROTEIN	ICTALURID HERPESVIRUS 1	582-609								
PV03_SPVIR	GENE 5 PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	65-92								
PV03_SPV4	GENE 5 PROTEIN	SPIROPLASMA VIRUS 4	56-83								
PV063_HSVI	HYPOTHETICAL GENE 63 PROTEIN	ICTALURID HERPESVIRUS 1	550-584								
PV064_HSVI	HYPOTHETICAL GENE 64 PROTEIN	ICTALURID HERPESVIRUS 1	477-504								
PV065_HSVI	HYPOTHETICAL GENE 65 PROTEIN	ICTALURID HERPESVIRUS 1	1213-1254								
PV066_HSVI	HYPOTHETICAL GENE 66 PROTEIN	ICTALURID HERPESVIRUS 1	362-406								
PV067_HSVI	HYPOTHETICAL GENE 67 PROTEIN	ICTALURID HERPESVIRUS 1	1342-1369								
PV068_HSVI	HYPOTHETICAL GENE 68 PROTEIN	ICTALURID HERPESVIRUS 1	261-288								
PV072_HSVI	HYPOTHETICAL GENE 72 PROTEIN	ICTALURID HERPESVIRUS 1	447-481								
PV075_HSVI	HYPOTHETICAL GENE 75 PROTEIN	ICTALURID HERPESVIRUS 1	388-422								
PV076_HSVI	HYPOTHETICAL GENE 76 PROTEIN	ICTALURID HERPESVIRUS 1	200-227								
PV071_SPV4	GENE 7 PROTEIN	SPIROPLASMA VIRUS 4	14-44								
PV071_BV8	F1 PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS	1230-1260	2408-2435							
PV072_CVB8	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN F15)	399-426	642-676	1022-1084	1278-1305					
PV072_CVB9	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN L9)	399-426		1022-1084	1278-1305					
PV072_CVB19	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN LY-118)	399-426	642-676	1022-1084	1278-1305					
PV072_CVB19	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN NEBUS)	399-426	642-676	1022-1084	1278-1305					
PV072_CVBQ	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN QUEBEC)	399-426	642-676	1022-1084	1278-1305					
PV072_CVBQ	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN VACCINE)	399-426	642-676	1022-1084	1278-1305					
PV072_CVB22	E2 GLYCOPROTEIN PRECURSOR	HUMAN CORONAVIRUS (STRAIN 229E)	770-797	809-875	1036-1112						
PV072_CVB4	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN WILD TYPE 4)	36-63	591-632	978-1040						
PV072_CVB4	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN A59)	36-63	591-632	978-1040						
PV072_CVB4	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN HMV / VARIANT CL-2)	36-63	591-632	978-1040						
PV072_CVB4	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN HMV)	502-543	889-951							

PCGENE	1071/244	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS									
PVGL2_CVPFS	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN FS72)	69-110	1072-1145	1353-1389						
PVGL2_CVPMI	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN MILL69-110)	692-733	1069-1145	1351-1389						
PVGL2_CVPPR	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN PUR4673-107)	690-731	1067-1143	1351-1387						
PVGL2_CVPPU	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN PUR107)	690-731	1067-1143	1351-1387						
PVGL2_CVPR8	E2 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN 86/13/0004 / BRITISH ISOLAT)	468-509	845-921	1129-1165						
PVGL2_CVPRM	E2 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN R44)	468-509	845-921	1129-1165						
PVGL2_CVPRT	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN NEB769-107)	690-731	1067-1143	1353-1387						
PVGL2_EBV	PROBABLE MEMBRANE GLYCOPROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	68-102								
PVGL2_FIPV	E2 GLYCOPROTEIN PRECURSOR	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	180-233	454-481	709-736	1072-1148	1356-1392				
PVGL2_IBV6	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN 6K3)	809-816	876-903	1057-1091						
PVGL2_IBV8	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	808-835	875-902	1056-1090						
PVGL2_IBVD1	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN D74)	809-836	876-903	1057-1091						
PVGL2_IBVK	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB523)	808-835	875-902	1056-1090						
PVGL2_IBVM	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN M41)	808-835	875-902	1056-1090						
PVGL2_EBV	GLYCOPROTEIN GP10 PRECURSOR	EPSTEIN-BARR VIRUS (STRAIN B95-8)	95-122	631-658							
PVGLB_HCMVA	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	25-88	397-424	440-467	851-878					
PVGLB_HCMVT	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	50-88	397-424	435-462	852-879					
PVGLB_HSVB1	GLYCOPROTEIN 1 PRECURSOR	BOVINE HERPESVIRUS TYPE 1	427-454								
PVGLB_HSVB2	GLYCOPROTEIN B-1 PRECURSOR	BOVINE HERPESVIRUS TYPE 2 (STRAIN BMV)	447-474								
PVGLB_HSVB1	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (ISOLATE HVS25A)	443-470	934-961							
PVGLB_HSVB4	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 4	486-513	616-643							
PVGLB_HSVB	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1)	443-470	934-961							
PVGLB_HSVB	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	443-470	933-960							
PVGLB_HSVL	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY D)	443-470	933-960							
PVGLB_HSVMD	GLYCOPROTEIN B PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN RB-1B)	93-120	352-379							
PVGLB_MCMV3	GLYCOPROTEIN C PRECURSOR	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	381-408	441-475							
PVGLC_HSV11	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	469-510								
PVGLC_HSV1K	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	469-510								
PVGLC_HSVB	GLYCOPROTEIN C PRECURSOR	EQUINE HERPESVIRUS TYPE 1	124-151								
PVGLC_VZVD	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	295-322								
PVGLC_VZVS	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN SCOTT)	295-322								
PVGLC_HSV2	GLYCOPROTEIN E PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2)	111-148								
PVGLF_BRSA	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A1908)	38-65	154-202	216-243	442-469	486-531				
PVGLF_BRSCV	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGEN)	38-65	154-202	216-243	444-471	488-533				
PVGLF_BRSVR	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN RB94)	38-65	154-202	216-243	444-471	488-533				
PVGLF_CDVO	FUSION GLYCOPROTEIN PRECURSOR	CANINE DISTEMPER VIRUS (STRAIN ONDERSHOOP)	232-293	340-367							
PVGLF_HRSV1	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 1837)	38-65	154-203	442-471	488-515					
PVGLF_HRSVA	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	38-65	154-202	213-243	488-518					
PVGLF_HRSVL	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN LONG)	38-65	154-202	216-243	444-471	488-515				
PVGLF_HRSVR	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN R35-2)	38-65	154-202	213-243	442-471	488-518				
PVGLF_MEASE	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN EDMONSTON AND HALLE)	228-262								
PVGLF_MEASI	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN IP-3-CA)	231-265								
PVGLF_MEASV	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN YAMAGATA-1)	228-262								
PVGLF_MUMPI	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL-1)	20-54	447-486							
PVGLF_MUMPM	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	20-54	447-486							
PVGLF_MUMPR	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN RW)	20-54	447-486							
PVGLF_MUMPS	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL)	151-178	426-511							
PVGLF_NDVA	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIAJ32)	151-178	426-512							
PVGLF_NDVH	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C45)	151-178	426-512							
PVGLF_NDVH3	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN HER33)	151-178	426-512							
PVGLF_NDVH4	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN BI-HITCHNER47)	151-178	426-512							
PVGLF_NDVI	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN ITALIEN45)	151-178	426-512							
PVGLF_NDVL	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN LAS46)	151-178	192-219	426-512						
PVGLF_NDVM	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN MIYADARA51)	151-178	437-512							
PVGLF_NDVQ	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN QUEENSLAND46)	151-178	433-512							
PVGLF_NDVT	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS)	151-178	426-512							
PVGLF_NDVTG	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS G.B.48)	151-178	426-512							

PCGENE	10717184	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS									
PVGLF_NDVU	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN ULSTER67)	151-178	426-512							
PVGLF_PHDV	FUSION GLYCOPROTEIN PRECURSOR	PHOCINE DISTEMPOR VIRUS	36-63	221-262	309-316						
PVGLF_PUHC	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C19)	147-174	210-266							
PVGLF_PPH	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS	90-117	141-175	238-266	483-528					
PVGLF_PPHG	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN GREER)	90-117	141-175	238-266	483-528					
PVGLF_PPHH	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIIBA)	90-117	141-175	238-266	483-528					
PVGLF_PPHI	FUSION GLYCOPROTEIN PRECURSOR	BOVINE PARAINFLUENZA 3 VIRUS	115-182	207-241	459-497						
PVGLF_PPHJ	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NII 47885)	115-182	207-241	457-497						
PVGLF_PPHK	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN KABETE O)	224-265	458-485							
PVGLF_PPHL	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN L)	224-265	458-485							
PVGLF_PPHM	FUSION GLYCOPROTEIN PRECURSOR	SENDAL VIRUS (STRAIN Z / HOST MUTANTS)	122-149	211-245	480-507						
PVGLF_PPHN	FUSION GLYCOPROTEIN PRECURSOR	SENDAL VIRUS (STRAIN FUSHIMI)	122-149	211-245	480-507						
PVGLF_PPHO	FUSION GLYCOPROTEIN PRECURSOR	SENDAL VIRUS (STRAIN HARRIS)	122-149	211-245	480-507						
PVGLF_PPHQ	FUSION GLYCOPROTEIN PRECURSOR	SENDAL VIRUS (STRAIN HV1)	122-149	211-245	480-507						
PVGLF_PPHR	FUSION GLYCOPROTEIN PRECURSOR	SENDAL VIRUS (STRAIN Z)	122-149	211-245	480-507						
PVGLF_PPHS	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 41	144-185	241-269	459-496						
PVGLF_PPHV	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 5 (STRAIN W3)	137-171	417-444							
PVGLF_PPHW	FUSION GLYCOPROTEIN PRECURSOR	TURKEY RHINOTRACHEITIS VIRUS	124-161	199-200	457-484						
PVGLF_PPHX	FUSION GLYCOPROTEIN PRECURSOR	BOVINE EPHEMERAL FEVER VIRUS	523-557								
PVGLF_PPHY	MAJOR SURFACE GLYCOPROTEIN G	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGEN)	92-123								
PVGLF_PPHZ	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18337)	63-93								
PVGLF_PPH1	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RS03837)	66-107								
PVGLF_PPH2	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RS06190)	243-273								
PVGLF_PPH3	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 860)	66-93								
PVGLF_PPH4	MAJOR SURFACE GLYCOPROTEIN G	EQUINE HERPESVIRUS TYPE 4	271-298								
PVGLF_PPH5	GLYCOPROTEIN G PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	383-410								
PVGLF_PPH6	GLYCOPROTEIN G PRECURSOR	RABIES VIRUS (STRAIN STREET)	489-519								
PVGLF_PPH7	SPIKE GLYCOPROTEIN PRECURSOR	VEICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN GLASGOW)	472-499								
PVGLF_PPH8	GLYCOPROTEIN H PRECURSOR	EPSTEIN-BARR VIRUS (STRAIN B95-8)	549-576	619-648							
PVGLF_PPH9	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	107-136	270-297							
PVGLF_PPH0	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN G5)	106-135								
PVGLF_PPH1	GLYCOPROTEIN H PRECURSOR	HERPESVIRUS SAIMIRI (STRAIN 11)	62-89	360-403							
PVGLF_PPH2	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	388-415								
PVGLF_PPH3	M POLYPROTEIN PRECURSOR	BUNYAVIRUS GERMISTON	47-111								
PVGLF_PPH4	M POLYPROTEIN PRECURSOR	BUNYAVIRUS LA CROSSE (ISOLATE L74)	512-546	914-941	1128-1255						
PVGLF_PPH5	M POLYPROTEIN PRECURSOR	BUNYAVIRUS LA CROSSE (ISOLATE L74)	913-950								
PVGLF_PPH6	M POLYPROTEIN PRECURSOR	DUGBE VIRUS	340-374	504-535	682-709						
PVGLF_PPH7	M POLYPROTEIN PRECURSOR	HANTAN VIRUS (STRAIN B-1)	945-972								
PVGLF_PPH8	M POLYPROTEIN PRECURSOR	HANTAN VIRUS (STRAIN HO10)	73-100	693-720							
PVGLF_PPH9	M POLYPROTEIN PRECURSOR	HANTAN VIRUS (STRAIN LEE)	75-102								
PVGLF_PPH0	M POLYPROTEIN PRECURSOR	HANTAN VIRUS (STRAIN 76-118)	75-102								
PVGLF_PPH1	M POLYPROTEIN PRECURSOR	IMPATIENS NECROTIC SPOT VIRUS	628-655	1069-1101							
PVGLF_PPH2	M POLYPROTEIN PRECURSOR	PROSPECT HILL VIRUS	69-96								
PVGLF_PPH3	M POLYPROTEIN PRECURSOR	PUMALA VIRUS (STRAIN HALLNAS B1)	72-110								
PVGLF_PPH4	M POLYPROTEIN PRECURSOR	PUMALA VIRUS (STRAIN SOTKAMO)	72-110								
PVGLF_PPH5	M POLYPROTEIN PRECURSOR	SEUL VIRUS (STRAIN 80-39)	513-540	693-720							
PVGLF_PPH6	M POLYPROTEIN PRECURSOR	SEUL VIRUS (STRAIN R22)	71-100	513-540	694-721						
PVGLF_PPH7	M POLYPROTEIN PRECURSOR	SEUL VIRUS (STRAIN SR-11)	71-100	513-540	694-721						
PVGLF_PPH8	NONSTRUCT GLYCOPRO GNS PRECURSOR	BOVINE EPHEMERAL FEVER VIRUS	523-564								
PVGLF_PPH9	PEPLOMER GLYCOPROTEIN PRECURSOR	BERNE VIRUS	48-82	1145-1179	1184-1211	1505-1532					
PVGLF_PPH0	GLYCOPROTEIN POLYPROTEIN PRECURSOR	JUNIN ARENAVIRUS	14-41								
PVGLF_PPH1	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LASSA VIRUS (STRAIN GA391)	86-113								
PVGLF_PPH2	GLYCOPROTEIN POLYPROTEIN PRECURSOR	MOPELA VIRUS	86-113	316-346							
PVGLF_PPH3	GLYCOPROTEIN POLYPROTEIN PRECURSOR	PICHINDE ARENAVIRUS	334-375								
PVGLF_PPH4	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS	109-136	315-350							
PVGLF_PPH5	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN V5)	303-338								

PCGENE	1072178-4	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVGLY TACV7	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN V7)	302-337								
PVGLY TACV7	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN TRVL 11598)	303-338								
PVGNM CFSMV	GENOME POLYPROTEIN M	COWPEA SEVERE MOSAIC VIRUS (STRAIN DG)	192-221								
PVGP8 EBV	PROBABLE MEMBRANE ANTIGEN GP85	EPSTEIN-BARR VIRUS (STRAIN B95-6)	104-149								
PVGP EB0V	STRUCTURAL GLYCOPROTEIN PRECURSOR	EBOLA VIRUS	280-314								
PVGP MABVM	STRUCTURAL GLYCOPROTEIN PRECURSOR	NARBURG VIRUS (STRAIN MUSOKE)	559-589	619-646							
PVGP MABVP	STRUCTURAL GLYCOPROTEIN PRECURSOR	MARBURG VIRUS (STRAIN POPP)	559-589	619-646							
PVH05 VACCC	PROTEIN H5	VACCINIA VIRUS (STRAIN COPENHAGEN)	132-166								
PVH05 VACCC	PROTEIN H5	VACCINIA VIRUS (STRAIN WR)	132-166								
PVH05 VARV	PROTEIN H5	VARIOLA VIRUS	64-91	150-184							
PVHEL LSV	PROBABLE HELICASE	LILY SYMPTOMLESS VIRUS	130-160								
PVHRP VACCC	HOST RANGE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	241-275								
PVHRP VACCV	HOST RANGE PROTEIN	VACCINIA VIRUS (STRAIN WR)	241-275								
PV101 VACCC	PROTEIN I1	VACCINIA VIRUS (STRAIN COPENHAGEN)	90-117	153-180							
PV101 VARV	PROTEIN I1	VARIOLA VIRUS	90-117	153-180							
V105 VACCC	PROTEIN I3	VACCINIA VIRUS (STRAIN COPENHAGEN)	160-190								
V105 VACCV	PROTEIN I3	VACCINIA VIRUS (STRAIN WR)	160-190								
V105 VARV	PROTEIN I3	VARIOLA VIRUS	160-190								
V108 VACCC	PUTATIVE RNA HELICASE I8	VACCINIA VIRUS (STRAIN COPENHAGEN)	290-317	593-632							
V108 VACCV	PUTATIVE RNA HELICASE I8	VACCINIA VIRUS (STRAIN WR)	290-317	593-632							
V108 VARV	PUTATIVE RNA HELICASE I8	VARIOLA VIRUS	290-317	593-632							
V1E1 MCHVS	IMMEDIATE-EARLY PROTEIN 1	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	261-288								
V1E2 NPVP	IMMEDIATE-EARLY PROTEIN IE-2	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	355-385								
V1EN NPVC	IE-REG PROTEIN IE-N	AUTOCORCA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	217-325	343-400							
V1F HV1RH	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (8/FHAT ISOLATE)	62-89								
V1F SV4I	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GRI-1)	2-36								
V1MP HSVEB	PROB INTEGRAL MEMBRANE PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	147-174								
V1MP HSVA	INTEGRAL MEMBRANE PROTEIN	HERPESVIRUS SAIMIRI (STRAIN I1)	80-107								
V1NT SSV1	PROBABLE INTEGRASE	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	73-100								
V101 VACCC	PROTEIN J1	VACCINIA VIRUS (STRAIN COPENHAGEN)	22-56								
V101 VACCV	PROTEIN J1	VACCINIA VIRUS (STRAIN WR)	22-56								
V101 VARV	PROTEIN J1	VARIOLA VIRUS	22-56								
V11 CRPVK	PROBABLE L1 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	331-383								
V11 FPVL	PROBABLE L1 PROTEIN	AVIAN PAPILLOMAVIRUS FPVL	38-45								
V11 HPV08	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8	354-392								
V11 HPV18	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	183-210								
V11 HPV33	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	19-46								
V11 HPV41	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	345-372								
V11 HPV51	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	19-46								
V11 HPV58	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	45-72								
V12 HPV1A	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	407-445								
V12 HPV41	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	415-442								
V13 REOVD	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 3 / STRAIN DEARING)	330-357								
V13 REOVL	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 1 / STRAIN LANG)	330-357								
V156 IRV1	L56 PROTEIN	ITPULA IRIDESCENT VIRUS	146-180	625-652							
PVMI REOVL	MINOR VIRION STRUCTURAL PROTEIN M2	REOVIRUS (TYPE 1 / STRAIN LANG)	290-317								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1	REOVIRUS (TYPE 3 / STRAIN DEARING)	625-662								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-2	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-3	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-4	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-5	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-6	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-7	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-8	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-9	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-10	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-11	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-12	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-13	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-14	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-15	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-16	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-17	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-18	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-19	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-20	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-21	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-22	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-23	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-24	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-25	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-26	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-27	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-28	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-29	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-30	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-31	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-32	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-33	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-34	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-35	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-36	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-37	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-38	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-39	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-40	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-41	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-42	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-43	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-44	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-45	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-46	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-47	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-48	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-49	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-50	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-51	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-52	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-53	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-54	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-55	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-56	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-57	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-58	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-59	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-60	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-61	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-62	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-63	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-64	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-65	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-66	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-67	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-68	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-69	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-70	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-71	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-72	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-73	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-74	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-75	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-76	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-77	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-78	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-79	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-80	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-81	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-82	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMI REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-83	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								

PCGENE	1071784	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVMA1_P1B	MATRIX PROTEIN	BOVINE PARAINFLUENZA 3 VIRUS	201-231								
PVMA1_P1B	MATRIX PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	201-231								
PVMA1_P1B	MATRIX PROTEIN	SIMIAN VIRUS 41	323-353								
PVME1_CVBM	E1 GLYCOPROTEIN	BOVINE CORONAVIRUS (STRAIN MIEBUS)	175-209								
PVME1_CVTR	E1 GLYCOPROTEIN	TURKEY ENTERIC CORONAVIRUS	175-209								
PVME1_BV6	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN 693)	21-48	184-218							
PVME1_BV8	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	21-48	184-218							
PVME1_BV82	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE 162)	21-48	184-218							
PVME1_BV8	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN K8853)	184-218								
PVMP_CMYC	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	220-254	273-324							
PVMP_CMYD	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D11)	29-56	220-254	273-324						
PVMP_CMYE	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BDC)	222-254	273-324							
PVMP_CMYN	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8151)	220-254	273-324							
PVMP_CMY5	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	220-254	273-324							
PVMP_CMYW	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN W260)	220-254	273-324							
PVMP_CERY	MOVEMENT PROTEIN	CARNATION ETCHED RING VIRUS	26-53	100-127							
PVMP_SCMV	MOVEMENT PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	4-31	78-118							
PVMSA_HPBHE	MAJOR SURFACE ANTIGEN PRECURSOR	HERON HEPATITIS B VIRUS	294-328								
PVMT1_DHV1	MATRIX PROTEIN 1	DIORI VIRUS (STRAIN INDIAN/11/61)	38-65	217-264							
PVMT1_MYXV	M-T1 PROTEIN	MYXOMA VIRUS (STRAIN LAUSANNE)	163-190								
PVMT1_MYXV	M-T1 PROTEIN	MYXOMA VIRUS (STRAIN LAUSANNE)	465-492								
PVMT1_MYXV	M-T1 PROTEIN	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	83-113								
PVNCN_PAVBO	PROBABLE NONCAPSID PROTEIN NP1	BOVINE PARVOVIRUS	149-176								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	ALEUTIAN MINK DISEASE PARVOVIRUS (STRAIN G)	86-148								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	AEDS DENDONUCLEOSIS VIRUS (STRAIN GRV 002 002)	14-41	279-339	487-517	585-612	780-817	821-848			
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	MURINE MINUTE VIRUS (STRAIN MVAH)	35-62	262-289							
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	MURINE MINUTE VIRUS	35-62	262-289							
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	HUMAN PARVOVIRUS B19	236-270								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	HAMSTER PARVOVIRUS H1	35-62								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	PORCINE PARVOVIRUS (STRAIN NADU-2)	24-55	169-196	316-346						
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	EPIDEMIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 2 / STRAIN ALBERTA 411-438)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/ALASKA/677)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/CHILE/783)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMAN/YN49)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/JAPAN/74)	168-195								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/6076)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/147)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/150)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/ENINGRAD/13457)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/MALLARD/ALBERTA/8876)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/121799)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/135879)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/TURKEY/BETHLEHEM-GLILIT/1492-B/82)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/TURKEY/CANADA/63)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/TURKEY/GERMANY/1872)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/DORNBURG/72)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA A VIRUS (STRAIN A/US/99077)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA B VIRUS (STRAIN BPA/79)	171-198								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA B VIRUS (STRAIN A/TURKEY/OREGON/71)	87-114								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA B VIRUS (STRAIN B/EE40)	51-78								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA B VIRUS (STRAIN B/MAGATA/173)	51-78								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	INFLUENZA C VIRUS (STRAIN C/1950)	71-98								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN ES772-9-36)	9-36								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	HUMAN CORONAVIRUS (STRAIN 229E)	6-40								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	RICE STRIKE VIRUS	11-45								
PVNCN_PAVB	NONCAPSID PROTEIN NS-1	CANINE ENTERIC CORONAVIRUS (STRAIN K378)									

PGCENE	102178.4	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVNUC JAPAR	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN APARROTULSTER/73)	378-405								
PVNUC JAPUE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN APUE/8/4)	378-405								
PVNUC JARUD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ARUDDY TURNSTONE/NEW JERSEY/47/85)	378-405								
PVNUC JASE0	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASEAL/MASSACHUSETTS/1/80)	378-405								
PVNUC JASH2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASIEAR/VAITERAUS/ITALIA/72)	378-405								
PVNUC JASIN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASINGAPORE/1/57)	378-405								
PVNUC JATEI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATEAL/CELANO/29/80)	378-405								
PVNUC JATCN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATURKEY/MINNESOTA/1/66/81)	378-405								
PVNUC JATKO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATURKEY/YONTARIO/7/32/66)	378-405								
PVNUC JATRS	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATERN/SOUTH AFRICA/61)	378-405								
PVNUC JATX7	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATERN/UKRAINE/1/17/72)	378-405								
PVNUC JATX1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATXAS/1/77)	378-405								
PVNUC JAUDO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AUDORN/20/72)	378-405								
PVNUC JAUS5	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AUSSER/90/77)	378-405								
PVNUC JAVI6	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AVICTORIA/5/68)	378-405								
PVNUC JAVIN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AVINIA/EMAN/2/28/84)	378-405								
PVNUC JAWHP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AWHAL/PACIFIC OCEAN/1/97/6)	378-405								
PVNUC JAWIL	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AWILSON-SMITH/43)	378-405								
PVNUC JAWIS	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AWILSON/3/22/88)	378-405								
PVNUC JAZ29	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/29/37)	378-405								
PVNUC JAZ41	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/41/49)	378-405								
PVNUC JAZCA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/CAMBI/1/13/5)	378-405								
PVNUC JAZDA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/DANONG/9/83)	378-405								
PVNUC JAZOE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/GERMANY/2/81)	378-405								
PVNUC JAZH1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/HONG KONG/6/76)	378-405								
PVNUC JAZH3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/HONG KONG/1/26/82)	378-405								
PVNUC JAZH4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/HONG KONG/1/27/82)	378-405								
PVNUC JAZI1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/IOWA/1/5/90)	378-405								
PVNUC JAZI2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/IOWA/1/97/6/31)	378-405								
PVNUC JAZI3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/IOWA/4/6)	378-405								
PVNUC JAZJ1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/ITALY/43/77/6)	378-405								
PVNUC JAZJ2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/ITALY/2/79)	378-405								
PVNUC JAZJ3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/ITALY/1/1/81)	378-405								
PVNUC JAZJ4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/ITALY/8/89)	378-405								
PVNUC JAZJA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/JAMESBURG/42)	378-405								
PVNUC JAZMA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/MAY/54)	378-405								
PVNUC JAZNE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/NETHERLANDS/12/83)	378-405								
PVNUC JAZOH	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/OHIO/23/35)	378-405								
PVNUC JAZON	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/ONTARIO/2/81)	378-405								
PVNUC JAZTE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/TENNESSEE/2/47/7)	378-405								
PVNUC JAZW1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/WISCONSIN/1/57)	378-405								
PVNUC JAZW2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASWINE/WISCONSIN/1/61)	378-405								
PVNUC JNCCA	NUCLEOPROTEIN	INFLUENZA C VIRUS (STRAIN CALIFORNIA/78)	99-126	416-443	451-478						
PVNUC MABVM	NUCLEOPROTEIN	MARBURG VIRUS (STRAIN MUSOXE)	366-407								
PVNUC MABVP	NUCLEOPROTEIN	MARBURG VIRUS (STRAIN POPP)	366-407								
PV001 VACCC	PROTEIN O1	VACCINIA VIRUS (STRAIN COPENHAGEN)	7-37	109-138	381-608						
PV001 VARV	PROTEIN O1	VARIOLA VIRUS	7-37	109-138	381-608						
PV001 FOMV	152 KD PROTEIN	FOXTAIL MOSAIC VIRUS	1023-1050								
PV001 NMY	186 KD PROTEIN	NARCISSUS MOSAIC VIRUS	996-1023	1527-1561							
PV001 PMV	176 KD PROTEIN	PAPAYA MOSAIC POTEX VIRUS	948-978	1481-1532							
PV001 PYMR	223 KD PROTEIN	POTATO VIRUS M (STRAIN RUSSIAN)	597-627								
PV001 PVX	165 KD PROTEIN	POTATO VIRUS X	698-725	1017-1044							
PV001 PVX3	165 KD PROTEIN	POTATO VIRUS X (STRAIN X3)	698-725	1017-1044							
PV001 SMYEA	150 KD PROTEIN	STRAWBERRY MILD YELLOW EDGE-ASSOCIATED VIRUS	312-342	691-721							
PV010 NPVAC	P10 PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	7-41								
PV010 NPVOP	P10 PROTEIN	ORGOTIA PSEUDOTSUGATA MULTICAPOSID POLYHEDROSIS VIRUS	7-48								
PV010 NPVSE	P10 PROTEIN	SPODOPTERA EXIGUA NUCLEAR POLYHEDROSIS VIRUS (STRAIN US)	6-33	37-64							

PCGENE	1071784	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PVP10 RGDV	NONSTRUCTURAL PROTEIN P10	RICE GALL DWARF VIRUS	205-252								
PVP10 WTV	NONSTRUCTURAL PROTEIN P10	WOUND TUMOR VIRUS	151-181	227-254							
PVP11 RDV	NONSTRUCTURAL PROTEIN P11	RICE DWARF VIRUS	53-80								
PVP12 WTV	NONSTRUCTURAL PROTEIN P12	WOUND TUMOR VIRUS	81-108								
PVP18 WTVN	NONSTRUCTURAL PROTEIN P18	WOUND TUMOR VIRUS (STRAIN NI)	81-108								
PVP19 AMCV	CORE PROTEIN P19	ARTICHOKE MOTTLED CRINKLE VIRUS	71-100								
PVP19 TBSVC	CORE PROTEIN P19	TOMATO BUSHY STUNT VIRUS (STRAIN CHERRY)	71-100								
PVP23 HSYSA	PROBABLE CAPSID PROTEIN VP23	HERPESVIRUS SAIMIRI (STRAIN 11)	2-29								
PVP26 HSYEB	CAPSID PROTEIN VP26	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	36-63								
PVP26 HSYSA	CAPSID PROTEIN VP26	HERPESVIRUS SAIMIRI (STRAIN 11)	48-75								
PVP2 AHV4	OUTER CAPSID PROTEIN VP2	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	277-304	410-437	632-662	907-934					
PVP2 BTV13	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	815-846								
PVP2 BTV1A	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	898-925								
PVP2 BTV1S	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	119-146								
PVP1 EIDV1	OUTER CAPSID PROTEIN VP2	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	72-103	415-451							
PVP2 ROTBR	RNA-BINDING PROTEIN VP2	BOVINE ROTAVIRUS (STRAIN RF)	39-94	523-553							
PVP2 ROTBU	RNA-BINDING PROTEIN VP2	BOVINE ROTAVIRUS (STRAIN UK)	39-94	524-554							
PVP2 ROTBW	RNA-BINDING PROTEIN VP2	HUMAN ROTAVIRUS (STRAIN WA)	70-101	531-567							
PVP2 ROTPC	RNA-BINDING PROTEIN VP2	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	52-99	128-156	518-545	705-746					
PVP2 ROTSI	RNA-BINDING PROTEIN VP2	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	36-96								
PVP10 ASFE1	PHOSPHOPROTEIN P10	AFRICAN SWINE FEVER VIRUS (STRAIN E-75)	39-75								
PVP32 ASFB7	PHOSPHOPROTEIN P32	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	39-75								
PVP33 EB0V	POLYMERASE COMPLEX PROTEIN VP33	EBOLA VIRUS	81-119								
PVP33 MABVM	POLYMERASE COMPLEX PROTEIN VP33	MARBURG VIRUS (STRAIN MUSKE)	80-107	231-258							
PVP33 MABVP	POLYMERASE COMPLEX PROTEIN VP33	MARBURG VIRUS (STRAIN POPP)	80-107	231-258							
PVP33 NPVAC	EARLY 33 KD PROTEIN	AUTOGRAPIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	270-297								
PVP33 NPVBM	EARLY 33 KD PROTEIN	BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS	68-102								
PVP33 VACC	IMMUNODOM ENV PRO P33	VACCINIA VIRUS (STRAIN WR)	178-205								
PVP39 NPVAC	MAJOR CAPSID PROTEIN	AUTOGRAPIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	134-161	264-291							
PVP39 NPVOP	MAJOR CAPSID PROTEIN	ORGANIA PSEUDOTUGATA MULTICAPSID POLYHEDROSIS VIRUS	263-290								
PVP3 AHV4	VP1 CORE PROTEIN	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	132-159								
PVP1 BTV10	VP1 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	214-252								
PVP1 BTV17	VP1 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	214-252								
PVP1 BTV1A	VP1 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	214-252								
PVP1 EHDV1	VP1 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	209-243	798-832							
PVP3 EHDV4	VP3 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 2 / STRAIN AUSTRAL)	798-832								
PVP3 GFLV	P3 PROTEIN	GRAPEVINE FANLEAF VIRUS	99-133								
PVP1 ROTPC	INNER CORE PROTEIN VP1	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	39-66	329-384							
PVP3 ROTSI	INNER CORE PROTEIN VP3	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	26-67	350-377	451-497	619-692					
PVP40 EBV	CAPSID PROTEIN P40	EPSTEIN-BARR VIRUS (STRAIN B95-8)	440-470								
PVP40 HSYSA	CAPSID PROTEIN P40	HERPESVIRUS SAIMIRI (STRAIN 11)	205-232	344-372							
PVP40 ILTV1	CAPSID PROTEIN P40	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	515-549								
PVP40 VZVD	CAPSID PROTEIN P40	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	174-208	495-522							
PVP41 ROTSI	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	8-35	589-619							
PVP42 ROTSI	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	8-35	584-622							
PVP44 VACC	MAJOR CORE PROTEIN P4A PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-75								
PVP44 VACC	MAJOR CORE PROTEIN P4A PRECURSOR	VACCINIA VIRUS (STRAIN WR)	48-75								
PVP44 VACC	MAJOR CORE PROTEIN P4A PRECURSOR	VARIOLA VIRUS	48-75								
PVP44 VACC	MAJOR CORE PROTEIN P4B PRECURSOR	FOWLPOX VIRUS	80-110								
PVP48 FOWPV	MAJOR CORE PROTEIN P4B PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	7-37								
PVP48 VACC	MAJOR CORE PROTEIN P4B PRECURSOR	VACCINIA VIRUS (STRAIN WR)	7-37								
PVP48 VACC	MAJOR CORE PROTEIN P4B PRECURSOR	VARIOLA VIRUS	7-37								
PVP48 VACC	MAJOR CORE PROTEIN P4B PRECURSOR	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	34-61	576-603							
PVP4 BTV10	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	34-61	576-603							
PVP4 BTV11	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	34-61	576-603							
PVP4 BTV13	VP4 CORE PROTEIN	NEBRASKA CALF DIARRHEA VIRUS (STRAIN NCDV-LINCOLN)	552-622								
PVP4 BTV2A	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN B641)	595-629								

PCGENE	107a17a4	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVP4_ROT84	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN C486)	8-35	584-622							
PVP4_ROT8C	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN UK)	595-629								
PVP4_ROT8U	OUTER CAPSID PROTEIN VP4	EQUINE ROTAVIRUS (STRAIN H-2)	112-146	235-269	552-639						
PVP4_ROT8H	OUTER CAPSID PROTEIN VP4	ROTAVIRUS (GROUP B / STRAIN IDIR)	5-32								
PVP4_ROT8I	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 1076)	8-35	572-628							
PVP4_ROT8J	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN RV-5)	8-35	279-306	565-621						
PVP4_ROT8K	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 69M)	8-35	112-139	584-629						
PVP4_ROT8L	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 69M)	8-35	279-306	565-621						
PVP4_ROT8M	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)	8-35	279-306	565-621						
PVP4_ROT8N	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN KJ)	8-35	112-138							
PVP4_ROT8O	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN KU)	8-35	77-104	279-306	577-621					
PVP4_ROT8P	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN L26)	8-35	279-306	565-621						
PVP4_ROT8Q	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN M37)	8-35	572-610							
PVP4_ROT8R	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN MCN13)	8-35	572-628							
PVP4_ROT8S	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN P)	8-35	577-621							
PVP4_ROT8T	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN RV)	8-38	105-135	235-262						
PVP4_ROT8U	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN ST. THOMAS 3)	8-35	572-627							
PVP4_ROT8V	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN VA70)	8-35	279-306	590-617						
PVP4_ROT8W	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	8-35	577-621							
PVP4_ROT8X	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (SEROTYPE 3 / STRAIN OSU)	112-146	584-625							
PVP4_ROT8Y	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	5-33	115-161	293-320						
PVP4_ROT8Z	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	8-35	572-628							
PVP4_ROT9A	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN YM)	8-35	584-622							
PVP4_ROT9B	OUTER CAPSID PROTEIN VP4	RHESUS ROTAVIRUS	8-38	584-622							
PVP4_ROT9C	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11-FEM)	8-35	589-619							
PVP4_ROT9D	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11-SEM)	8-35	130-157	584-622						
PVP4_ROT9E	NONSTRUCTURAL PROTEIN PNS4	WOUND TUMOR VIRUS	28-62								
PVP4_ROT9F	OUTER CAPSID PROTEIN VP5	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	113-183	191-218							
PVP4_ROT9G	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	53-80	99-126							
PVP4_ROT9H	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	53-80	92-126							
PVP4_ROT9I	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	53-80								
PVP4_ROT9J	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE AUSTRALIA)	53-80	89-126							
PVP4_ROT9K	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE SOUTH AFRICA)	53-80	92-126	148-182						
PVP4_ROT9L	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	53-80	89-126							
PVP4_ROT9M	OUTER CAPSID PROTEIN VP5	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	31-80	191-218	399-426						
PVP4_ROT9N	OUTER COAT PROTEIN P5	WOUND TUMOR VIRUS	648-675								
PVP4_ROT9O	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	161-193								
PVP4_ROT9P	PROB NONSTRUCT 41.0 KD PRO	MAIZE ROUGH DWARF VIRUS	153-202								
PVP4_ROT9Q	61 KD PROTEIN	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYTHEDROSIS VIRUS	36-63								
PVP4_ROT9R	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	157-189								
PVP4_ROT9S	MAJOR ENV GLYCOPRO PRECURSOR	ORGANIA PSEUDOTSUGATA MULTICAPSID POLYTHEDROSIS VIRUS	45-72								
PVP4_ROT9T	MAJOR ENV GLYCOPRO PRECURSOR	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYTHEDROSIS VIRUS	44-81								
PVP4_ROT9U	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	157-189								
PVP4_ROT9V	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	157-189								
PVP4_ROT9W	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	157-189								
PVP4_ROT9X	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE SOUTH AFRICA)	161-193								
PVP4_ROT9Y	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	133-172								
PVP4_ROT9Z	STRUCTURAL PROTEIN P6	RICE DWARF VIRUS	10-37	354-381							
PVP4_ROT10A	VP7 PROTEIN	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYTHEDROSIS VIRUS	413-440								
PVP4_ROT10B	PROBABLE MEMBRANE ANTIGEN 75	HERPESVIRUS SAIMIRI (STRAIN 11)	181-208	929-977							
PVP4_ROT10C	79 KD PROTEIN	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYTHEDROSIS VIRUS	44-78	370-397							
PVP4_ROT10D	VP7 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	16-43								
PVP4_ROT10E	NONSTRUCTURAL PROTEIN PNS7	WOUND TUMOR VIRUS	438-485								
PVP4_ROT10F	CAPSID PROTEIN P80	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYTHEDROSIS VIRUS	101-142	240-298							
PVP4_ROT10G	CAPSID PROTEIN P87	ORGANIA PSEUDOTSUGATA MULTICAPSID POLYTHEDROSIS VIRUS	132-159								
PVP4_ROT10H	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	105-132								
PVP4_ROT10I	STRUCTURAL PROTEIN VP8 PRECURSOR	FOWLPOX VIRUS	211-238								

PGENE	1071784	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS									
PVP8_WTV	OUTER CAPSID PROTEIN P8	WOUND TUMOR VIRUS	29-56	112-143							
PVP9_RDV	NONSTRUCTURAL PROTEIN P9S9	RICE DWARF VIRUS	197-224								
PVP9_WTV	STRUCTURAL PROTEIN P9	WOUND TUMOR VIRUS	22-49								
PVP9_WTVN1	STRUCTURAL PROTEIN P9	WOUND TUMOR VIRUS (STRAIN N1)	22-49								
PVPHE_NPVAC	29 KD POLYHEDRAL ENVELOPE PROTEIN	AUTOGRAPIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	196-223								
PVPHE_NPVOP	32 KD POLYHEDRAL ENVELOPE PROTEIN	ORGANIA PSEUDOTUGATA MULTICAPSID POLYHEDROSIS VIRUS	127-186	238-265							
PVRT_ADEMI	ENDOPROTEASE	MOUSE ADENOVIRUS TYPE I	167-194								
PVPV_HV1A2	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV25F2 ISOLATE)	3-31								
PVPV_HV1B1	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (H1010 AND H1013 ISOLATES)	5-48								
PVPV_HV1B8	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (B18 ISOLATE)	21-48								
PVPV_HV1B9	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAIN ISOLATE)	22-49								
PVPV_HV1B9	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ORU ISOLATE)	5-48								
PVPV_HV1C4	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (CDC-451 ISOLATE)	3-30								
PVPV_HV1E1	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	6-33								
PVPV_HV1H2	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (H102 ISOLATE)	5-48								
PVPV_HV1J3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JH1 ISOLATE)	2-29								
PVPV_HV1J4	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JH2 ISOLATE)	22-49								
PVPV_HV1MA	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JH3 ISOLATE)	5-32								
PVPV_HV1ND	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JH4 ISOLATE)	6-33								
PVPV_HV1PV	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	3-48								
PVPV_HV1S1	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE)	22-49								
PVPV_SIVCZ	VPU PROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS	51-78								
PVPX_LDV	VPU PROTEIN	LACTATE DEHYDROGENASE-ELEVATING VIRUS	64-94								
PVRNA_BSMV	ALPHA-A PROTEIN	BARLEY STRIPE MOSAIC VIRUS	1051-1078								
PVS06_ROTBS	VPU PROTEIN	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	6-43								
PVS06_ROTGA	VPU PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADRV)	114-144								
PVS06_ROTGI	VPU PROTEIN	ROTAVIRUS (GROUP B / STRAIN DIR)	28-55								
PVS06_ROTIC	VPU PROTEIN	HUMAN ROTAVIRUS	9-44								
PVS06_ROTIC	VPU PROTEIN	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	9-44								
PVS07_ROTBI	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN KN-4)	2-29								
PVS07_ROTBU	NONSTRUCTURAL PROTEIN NCVP3	BOVINE ROTAVIRUS (STRAIN UK)	91-146	199-236							
PVS07_ROTFS	NONSTRUCTURAL PROTEIN NCVP3	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)	91-146	202-236							
PVS07_ROTIS	NONSTRUCTURAL PROTEIN NCVP3	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	91-146	199-236							
PVS08_ROTBU	NONSTRUCTURAL PROTEIN NS2/VP9	BOVINE ROTAVIRUS (STRAIN UK)	164-201								
PVS08_ROTIS	NONSTRUCTURAL PROTEIN NCVP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	164-201	217-251							
PVS09_ROTBA	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN B641)	2-29								
PVS09_ROTBS	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN A5)	2-29								
PVS09_ROTBU	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN UK)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7 PRECURSOR	ROTAVIRUS (GROUP B / STRAIN ADRV)	210-237								
PVS09_ROTGA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN RV-4)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN HU5)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE G / STRAIN B37)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN HNI26)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN M57)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN MO AND STRAIN D)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN P)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN S2)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 3 / STRAIN A776)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 3 / STRAIN CRW-8)	2-29								
PVS09_ROTGA	GLYCOPROTEIN VP7	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	2-29								
PVS10_ROTBS	MINOR OUTER CAPSID PROTEIN	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	125-132								
PVS10_ROTIS	NONSTRUCTURAL GLYCOPROTEIN NCVP3	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	113-140								
PVS11_ROTBU	MINOR OUTER CAPSID PROTEIN	BOVINE ROTAVIRUS (STRAIN UK)	13-40	114-145							
PVS11_ROTBU	MINOR OUTER CAPSID PROTEIN	BOVINE ROTAVIRUS (STRAIN VABU)	13-40	114-145							
PVS11_ROTGA	NONSTRUCTURAL PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADRV) (ADULT DIARRHEA ROTAVIRUS)	31-60								

PGCENE	1071784	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN RV-5)	13-40	111-145							
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)	13-40	111-145							
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	111-145								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	RABBIT ROTAVIRUS (STRAIN ALABAMA)	111-145								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SIMIAN 11 ROTAVIRUS (STRAIN SALL)	111-146								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MUMPS VIRUS	9-46								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MUMPS VIRUS (STRAIN MATSUJAMA)	12-41								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MUMPS VIRUS (STRAIN BELFAST)	9-41								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MUMPS VIRUS (STRAIN ENDERS)	9-46								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MUMPS VIRUS (STRAIN JER-VL-1 YNN)	9-46								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MUMPS VIRUS (STRAIN KILIAM)	9-46								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MUMPS VIRUS (STRAIN BRISTOL 1)	12-41								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	12-41								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MUMPS VIRUS (STRAIN RW)	9-41								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MUMPS VIRUS (STRAIN URABE VACCINE AM9)	12-41								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	REOVIRUS (TYPE 3 / STRAIN DEARING)	26-63	71-122	127-168	222-259					
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	REOVIRUS (TYPE 2 / STRAIN D3/JONES)	4-104	130-193							
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	REOVIRUS (TYPE 1 / STRAIN LANG)	4-52	75-104	112-160						
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	REOVIRUS (TYPE 3 / STRAIN DEARING)	350-384								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	REOVIRUS (TYPE 2 / STRAIN D3/JONES)	289-316								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	REOVIRUS (TYPE 3 / STRAIN DEARING)	90-117								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	REOVIRUS (TYPE 1 / STRAIN LANG)	50-77								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	CAPRIPOX VIRUS (STRAIN INS-1)	124-158								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SHOPE FIBROMA VIRUS (STRAIN KASZA)	250-277								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	234-290								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	417-451								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN UGANDA-102)	176-203								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	ICTALURID HERPESVIRUS 1	710-737								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	394-421								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN VT1)	169-196								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	169-196								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIIBA)	4-38								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	25-65								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	4-61								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	30-78								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	TOBACCO YELLOW DWARF VIRUS (STRAIN AUSTRALIA)	51-87								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	85-112								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	59-86								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	5-39								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	80-107								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	77-111								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	9-36	119-153							
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MAIZE STREAK VIRUS (NIGERIAN ISOLATE)	34-61								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	MAIZE STREAK VIRUS (SOUTH-AFRICAN ISOLATE)	34-61								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	76-103								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	91-164								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	118-148								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	24-97								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	233-267								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	133-184								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	122-149								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	56-94								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	81-121	546-573	658-700						
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	13-40								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	74-108	152-179	184-218						
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	62-89								
PVS11_ROT45	MINOR OUTER CAPSID PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	162-197	214-241							

PGENE	107a17s4	All Viruses (no Bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS									
PYB12_FOWPM	HYPOTHETICAL BAMHI-ORF12 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	11-38								
PYB13_FOWPM	HYPOTHETICAL BAMHI-ORF13 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	128-167								
PYB13_FOAMV	BEL-3 PROTEIN	HUMAN SPUMARETROVIRUS	87-116								
PYDH1_HSV7	HYPOTH 24.1 KD IN DIFER 3 REGION	HERPESVIRUS SAIMIRI (STRAIN 484-77)	161-188								
PYDH1_HSV8	HYPOTH 28.7 KD IN DIFER 3 REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	52-82								
PYDH4_HSV8	HYPOTH 9.9 KD IN DIFER 3 REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	53-83								
PYF26_FOWP1	HYPOTHETICAL 33.9 KD PROTEIN	FOWLPOX VIRUS (STRAIN FF-1)	8-35								
PYF30_FOWP1	HYPOTHETICAL 30.9 KD PROTEIN	FOWLPOX VIRUS (STRAIN FF-1)	170-204								
PYH12_VACCV	HYPOTH 21.7 KD HINDIII-C PRO	VACCINIA VIRUS (STRAIN WR)	37-64	95-126	144-171						
PYH13_VACCV	HYPOTH HOST RANGE 27.4 KD PRO	VACCINIA VIRUS (STRAIN WR)	31-58	179-206							
PYK82_EBV	HYPOTHETICAL BKR2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	90-121								
PYK84_EBV	HYPOTHETICAL BKR4 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	19-33								
PYL15_ADE41	HYPOTH 12.4 KD IN 33 KD REGION	HUMAN ADENOVIRUS TYPE 41	47-86								
PYLR3_EBV	HYPOTHETICAL BLR3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	27-54								
PYOR1_COYAV	HYPOTHETICAL 23 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS	94-143								
PYOR2_COYAV	HYPOTHETICAL 13 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS	35-76								
PYOR3_WCMVM	HYPOTHETICAL 13 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN M)	64-94								
PYOR3_WCMVO	HYPOTHETICAL 13 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN O)	65-95								
PYOR3_ADEG1	HYPOTHETICAL 31.5 KD PROTEIN	AVIAN ADENOVIRUS GALI (STRAIN PHELPS)	92-119								
PYOR4_TTV1	HYPOTHETICAL 8.1 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	23-57								
PYORL_TTV1	HYPOTHETICAL 26.8 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	15-42								
PYORQ_TTV1	HYPOTHETICAL 7.3 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	3-31								
PYORW_TTV1	HYPOTHETICAL 12.1 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	4-40								
PYPI2_RTBV	HYPOTHETICAL P12 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS	44-71								
PYPI2_RTBVP	HYPOTHETICAL P12 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	44-71								
PY24_RTBV	HYPOTHETICAL P24 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS	59-101	106-157							
PY24_RTBVP	HYPOTHETICAL P24 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	51-101	106-157							
PY246_RTBV	HYPOTHETICAL P46 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS	58-107	197-231							
PY246_RTBVP	HYPOTHETICAL P46 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	58-107	197-231							
PY263_NPVAC	HYPOTH PRO P6.5 REGION	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	44-71								
PY263_NPVOP	HYPOTH 40.0 KD IN P6.5 REGION	ARGENTINA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	325-352								
PY268_NPVAC	HYPOTH 23.6 KD IN POLYHEDRIN 5 REGION	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	116-153								
PY268_NPVN	HYPOTHETICAL 17.0 KD PROTEIN	INFECTIOUS PANCREATIC NECROSIS VIRUS (STRAIN NI)	5-32								
PY301_AMEPV	HYPOTHETICAL PROTEIN IN TK 3 REGION	AMSACTA MOOREI ENTOMOPHILUS	8-57	59-96	156-183						
PYR81_HSV6G	HYPOTHETICAL PROTEIN RF1	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	208-235								
PYR82_HSV6G	HYPOTHETICAL PROTEIN RF2	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	223-257	268-299							
PYR83_HSV6G	HYPOTHETICAL PROTEIN RF3	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	141-168								
PYR84_HSV6G	HYPOTHETICAL PROTEIN RF4	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	404-441								
PYR2 IRV6	REPETITIVE PROTEIN ORF2	CHILLO INDIENSCENT VIRUS	10-45								
PYVAG_VACCC	HYPOTHETICAL 23 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	7-34								
PYVAH_VACCC	HYPOTHETICAL 14.5 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	81-112								
PYVDB_VACCC	HYPOTHETICAL 8.5 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	29-77								
PYVDB_VACCV	HYPOTHETICAL 8.5 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	46-77								
PYVDH_VACCV	HYPOTHETICAL 7.2 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	20-50								
PYVGB_VACCC	HYPOTHETICAL 8.4 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	10-44								
PY2L2_EBV	HYPOTHETICAL BZLF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	152-179								

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TABLE VII

107 X 178 X 4 SEARCH MOTIF RESULTS SUMMARY

(PREFERRED VIRAL SEQUENCES)

PCGENE	1071784	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PV01_MLVAK	POL POLYPROTEIN	AKV MURINE LEUKEMIA VIRUS	453-480								
PV02_MLVAV	ENV POLYPROTEIN	AKV MURINE LEUKEMIA VIRUS	517-544								
PV03_MLVAV	POL POLYPROTEIN	AKV MURINE LEUKEMIA VIRUS	805-832								
PV04_AVMQ2	MYC TRANSFORMING PROTEIN	AVIAN MYELOCTOMATOSIS VIRUS CMII	375-402								
PV05_AVMQ2	MYC TRANSFORMING PROTEIN	AVIAN MYELOCTOMATOSIS VIRUS HBI	232-266								
PV06_AVMQ2	MYC TRANSFORMING PROTEIN	AVIAN MYELOCTOMATOSIS VIRUS HBI	232-267								
PV07_AVMQ2	MYC TRANSFORMING PROTEIN	AVIAN MYELOCTOMATOSIS VIRUS MC29	376-403								
PV08_FPV1	PROBABLE LI PROTEIN	AVIAN PAPILLOMAVIRUS FPV-1	38-65								
PV09_HSVB1	GLYCOPROTEIN I PRECURSOR	BOVINE HERPESVIRUS TYPE 1	427-454								
PV10_HSVB1	RIBONUCLEOPROTEIN REDUCT SMALL CHA	BOVINE HERPESVIRUS TYPE 1 (STRAIN 34)	90-117								
PV11_HSVB2	GLYCOPROTEIN B-1 PRECURSOR	BOVINE HERPESVIRUS TYPE 2 (STRAIN BMV)	447-474								
PV12_HSVB6	ENV POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 06)	17-44	544-603	631-695						
PV13_HSV7	ENV POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	17-44	573-632	660-724						
PV14_HSVAF	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AMERICAN ISOLATE FLK)	304-377								
PV15_HSVAF	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE VDM)	304-377								
PV16_HSVAF	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	304-377								
PV17_HSVB1	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB383)	311-377								
PV18_HSVB1	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB39)	304-377								
PV19_HSVB1	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	66-93								
PV20_HSVB1	HEMAGGLUTININ-NEURAMINIDASE	BOVINE PARAINFLUENZA 3 VIRUS	34-91	255-282	285-314						
PV21_HSVB1	RNA POLYMERASE ALPHA SUBUNIT	BOVINE PARAINFLUENZA 3 VIRUS	115-182	207-241	459-497						
PV22_HSVB1	FUSION GLYCOPROTEIN PRECURSOR	BOVINE PARAINFLUENZA 3 VIRUS	201-231								
PV23_HSVB1	MATRIX PROTEIN	BOVINE PARAINFLUENZA 3 VIRUS	99-133								
PV24_HSVB1	RNA POLYMERASE ALPHA SUBUNIT	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	38-65	154-202	216-243	442-469	486-531				
PV25_HSVB1	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	124-152								
PV26_HSVB1	MATRIX GLYCOPROTEIN M2	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	219-246								
PV27_HSVB1	MATRIX PROTEIN	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	38-65	154-202	216-243	444-471	488-533				
PV28_HSVB1	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGEN)	92-123								
PV29_HSVB1	MAJOR SURFACE GLYCOPROTEIN G	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGEN)	38-65	154-202	216-243	444-471	488-533				
PV30_HSVB1	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN RB94)	310-339								
PV31_HSVB1	ENV POLYPROTEIN	CAS-BR-E MURINE LEUKEMIA VIRUS	160-187	253-289	316-366	526-584	627-654				
PV32_HSVB1	ENV POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS	51-78								
PV33_HSVB1	VP1 PROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS	242-269								
PV34_HSVB1	POL POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIVCP22)	331-383								
PV35_HSVB1	PROBABLE E2 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	1858-1885	2890-2935	2982-3016	3117-3147					
PV36_HSVB1	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN SINGAPORE 527590)	1544-1571	1858-1885	2485-2519	2908-2935	2982-3016	3117-3147			
PV37_HSVB1	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681)	1544-1571	1858-1885	2485-2519	2908-2935	2982-3016	3117-3147			
PV38_HSVB1	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681-PDK53)	1544-1571	1858-1885	2485-2519	2908-2935	2982-3016	3117-3147			
PV39_HSVB1	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN JAMAICA)	1544-1571	1858-1885	2485-2519	2908-2935	2982-3016	3117-3147			
PV40_HSVB1	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN PR159/51)	1134-1161	1448-1475							
PV41_HSVB1	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN TONGA 1974)	837-864	1542-1569	1857-1884	2494-2521	2980-3014	3145-3372			
PV42_HSVB1	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 3	2885-2910	2977-3011	3142-3369						
PV43_HSVB1	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (BROWN SHANGHAI DUCK ISOLATE S5)	5-39								
PV44_HSVB1	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (STRAIN CHINA)	5-39								
PV45_HSVB1	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE S31)	5-39	304-331							
PV46_HSVB1	LARGE TEGUMENT PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	145-172	1215-1242	1344-1371	1876-1903					
PV47_HSVB1	VP1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	115-142	313-340	542-569						
PV48_HSVB1	HYPOHETICAL PROTEIN BBLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	15-42								
PV49_HSVB1	PROB DNA REPLICATION PROTEIN BSLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	185-212								
PV50_HSVB1	HYPOHETICAL PROTEIN B(CRF1)	EPSTEIN-BARR VIRUS (STRAIN B95-8)	409-436								
PV51_HSVB1	HYPOHETICAL PROTEIN B(CRF1)	EPSTEIN-BARR VIRUS (STRAIN B95-8)	107-144								
PV52_HSVB1	HYPOHETICAL PROTEIN BDLF4	EPSTEIN-BARR VIRUS (STRAIN B95-8)	847-874								
PV53_HSVB1	MAJOR CAPSID PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	68-102								
PV54_HSVB1	PROBABLE MEMBRANE GLYCOPROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	95-122								
PV55_HSVB1	GLYCOPROTEIN GP110 PRECURSOR	EPSTEIN-BARR VIRUS (STRAIN B95-8)	349-376								
PV56_HSVB1	GLYCOPROTEIN GP35 PRECURSOR	EPSTEIN-BARR VIRUS (STRAIN B95-8)	619-648								
PV57_HSVB1	PROBABLE MEMBRANE ANTIGEN GP35	EPSTEIN-BARR VIRUS (STRAIN B95-8)	104-149								

PCGENE	1071178a.4	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PV740_EBV	PROTEIN P40	EPSTEIN-BARR VIRUS (STRAIN B95-8)	400-470								
PV740_EBV	CAPSID DNA PACKAGING PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	234-290								
PYK21_EBV	HYPOHETICAL BKRF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	90-121								
PYK24_EBV	HYPOHETICAL BKRF4 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	19-53								
PYL33_EBV	HYPOHETICAL BLRF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	27-54								
PYL22_EBV	HYPOHETICAL BLRF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	152-179								
PBLZ1_EBV	BZLF1 TRANS-ACTIVATOR PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	193-220								
PDNB1_EBV	MAJOR DNA-BINDING PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	977-1004	1041-1068							
PEAR_EBV	EARLY ANTIGEN PROTEIN R	EPSTEIN-BARR VIRUS (STRAIN B95-8)	55-82								
PLMP1_EBV	LATENT MEMBRANE PROTEIN I	EPSTEIN-BARR VIRUS (STRAIN B95-8)	148-175								
PLMP2_EBV	GENE TERMINAL PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	294-321								
PLMP1_EBVC	LATENT MEMBRANE PROTEIN I	EPSTEIN-BARR VIRUS (STRAIN CAO)	148-175								
PLMP1_EBVR	LATENT MEMBRANE PROTEIN I	EPSTEIN-BARR VIRUS (STRAIN RAJI)	148-175								
PUL32_HSVEB	MAJOR ENVELOPE GLYCOPROTEIN 100	EQUINE HERPESVIRUS TYPE 1	345-375								
PVGLC_HSVEB	GLYCOPROTEIN C PRECURSOR	EQUINE HERPESVIRUS TYPE 1	124-151								
PVGLB_HSVE1	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (ISOLATE HVS31A)	443-470	914-961							
PVGLB_HSVEA	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1)	443-470	914-961							
PAT12_HSVEB	ALPHA TRANS-IND FACTOR 12 KD PRO	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	294-321								
PAT1N_HSVEB	ALPHA TRANS-IND PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	235-289								
PHL1_HSVEB	PROBABLE HELICASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	184-211	321-348							
PR1R1_HSVEB	RBONUC-DIPHOSPH REDUCT LARGE CHA	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	75-102								
PTEGU_HSVEB	LARGE TEGUMENT PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	235-256	566-593	1205-1232						
PUL06_HSVEB	VIRION GENE 56 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	640-667								
PUL14_HSVEB	HYPOHETICAL GENE 48 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	247-286								
PUL21_HSVEB	GENE 40 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	44-71								
PUL37_HSVEB	GENE 31 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	715-749	987-1014							
PUL52_HSVEB	DNA REPLICATION PROTEIN UL52	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	193-220	943-970							
PVGO3_HSVEB	GENE 3 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	146-176								
PVGLB_HSVEB	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	443-470	914-961							
PVGLG_HSVEB	GLYCOPROTEIN G PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	383-410								
VMP_HSVEB	PROB INTEGRAL MEMBRANE PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	147-174								
PV26_HSVEB	CAPSID PROTEIN VP26	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	36-63								
PVGO3_HSVEK	GENE 3 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	146-176								
PVGLB_HSVEL	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY D)	443-470	913-960							
PCELF_HSVEB	CELL FUSION PROTEIN PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAINS AB4P and Ky A)	312-339								
PUL47_HSVE4	97 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 4	190-217								
PVGLB_HSVEA	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 4	486-513	616-643							
PVGLG_HSVEA	GLYCOPROTEIN G PRECURSOR	EQUINE HERPESVIRUS TYPE 4	271-298								
PDUT_HSVE4	DEOXYU 5'-TRIPHOSPH NUCLYDROLASE	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	90-117								
PVE1_PAPVE	PROBABLE E2 PROTEIN	EUROPEAN ELK PAPILLOMAVIRUS	120-150								
PENY_FIVE5	ENV POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	650-680	722-749							
POL_FIVE5	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	442-473								
PENY_FIVSD	ENV POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	639-668	720-747							
PENY_FIVT2	ENV POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE TM2)	640-679	721-748							
PENY_FIVC6	ENV POLYPROTEIN	FELINE LEUKEMIA PROVIRUS (CLONE CFE-6)	509-538								
PMYC_FLVTT	MYC TRANSFORMING PROTEIN	FELINE LEUKEMIA PROVIRUS FTT	393-420								
PMYC_FLV	MYC TRANSFORMING PROTEIN	FELINE LEUKEMIA VIRUS	393-420								
PENY_FLVGL	ENV POLYPROTEIN	FELINE LEUKEMIA VIRUS (STRAIN AGLASGOW-1)	490-519								
PENY_FLV1B	ENV POLYPROTEIN	FELINE LEUKEMIA VIRUS (STRAIN LAMBDA-B1)	510-539								
PENY_FLV5A	ENV POLYPROTEIN	FELINE LEUKEMIA VIRUS (STRAIN SARMA)	487-516	6							
PENY_FLV5	ENV POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE 57)	523-553								
PENY_MLVIF	ENV POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)	523-553								
PENY_MLVFP	ENV POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE PVC-211)	523-553								
PENY_GALV	ENV POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	176-203	523-564							
PGAG_GALV	GAG POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	306-442	447-474							
PPOL_GALV	POL POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	535-562	676-703							
PPOL_HPBG5	DNA POLYMERASE	GROUND SQUIRREL HEPATITIS VIRUS	271-325								

PCGENE	10711784	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	VIRUS									
PPOL_HSVSA	DNA POLYMERASE	HERPESVIRUS SAIMIRI (STRAIN 11)	635-652								
PDU1_HSVSA	DEOXYU 5'-TRIPHOSPH NUCLEOTIDYLTRANSFERASE	HERPESVIRUS SAIMIRI (STRAIN 11)	179-213								
PHL1_HSVSA	PROBABLE HELICASE	HERPESVIRUS SAIMIRI (STRAIN 11)	418-449								
PIC18_HSVSA	PROBABLE PROC & TRANSPORT PRO	HERPESVIRUS SAIMIRI (STRAIN 11)	58-85	482-522							
PIE68_HSVSA	IMMEDIATE-EARLY PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	48-78								
PK1TH_HSVSA	THYMIDINE KINASE	HERPESVIRUS SAIMIRI (STRAIN 11)	340-386								
PR11_HSVSA	RIBONUCLEODIPHOSPH REDUCT LARG CHA	HERPESVIRUS SAIMIRI (STRAIN 11)	324-351								
PTEG1_HSVSA	PROBABLE LARGE TEGUMENT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	524-607	672-700		846-898	949-986	990-1017	1467-1497	2102-2115	
PTYS1_HSVSA	THYMIDYLATE SYNTHASE	HERPESVIRUS SAIMIRI (STRAIN 11)	120-147								
PUL06_HSVSA	VIRION GENE 41 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	15-42	302-358							
PUL23_HSVSA	VIRION GENE 19 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	34-61	204-231							
PUL34_HSVSA	GENE 67 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	208-235								
PUL37_HSVSA	GENE 63 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	31-65	685-737							
PUL32_HSVSA	PROB DNA REP GENE 36 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	130-157								
PUL73_HSVSA	HYPOTHETICAL GENE 53 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	9-36								
PUL77_HSVSA	HYPOTHETICAL GENE 24 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	582-609								
PUL92_HSVSA	HYPOTHETICAL GENE 31 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	92-122								
PONG_HSVSA	URACIL-DNA GLYCOSYLASE	HERPESVIRUS SAIMIRI (STRAIN 11)	135-176								
PVCAP_HSVSA	MAJOR CAPSID PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	769-799								
PVG45_HSVSA	HYPOTHETICAL GENE 45 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	138-165								
PVG48_HSVSA	HYPOTHETICAL GENE 48 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	360-394								
PVG32_HSVSA	HYPOTHETICAL GENE 52 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	47-74								
PVGLH_HSVSA	GLYCOPROTEIN H PRECURSOR	HERPESVIRUS SAIMIRI (STRAIN 11)	388-415								
VMP_HSVSA	INTEGRAL MEMBRANE PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	80-107								
PV723_HSVSA	PROBABLE CAPSID PROTEIN VP73	HERPESVIRUS SAIMIRI (STRAIN 11)	2-29								
PV726_HSVSA	CAPSID PROTEIN VP26	HERPESVIRUS SAIMIRI (STRAIN 11)	48-75								
PV740_HSVSA	CAPSID PROTEIN P40	HERPESVIRUS SAIMIRI (STRAIN 11)	205-232	344-372							
PV775_HSVSA	PROBABLE MEMBRANE ANTIGEN 75	HERPESVIRUS SAIMIRI (STRAIN 11)	181-208	928-977							
PONB1_HSVSA	MAJOR DNA-BINDING PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	333-368	512-539							
PGH2_HSVSA	CYCLIN HOMOLOG	HERPESVIRUS SAIMIRI (STRAIN 11)	127-154								
PYDH1_HSVSA	HYPOTH 24.1 KD IN DHFR 3'REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 484-77)	161-188								
PYDH1_HSVSA	HYPOTH 28.7 KD IN DHFR 3'REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	52-82								
PYDH1_HSVSA	HYPOTH 9.9 KD IN DHFR 3'REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	53-83								
PENV_MLVHO	ENV POLYPROTEIN	HOMULV MURINE LEUKEMIA VIRUS	510-540								
PPOL_HCMVA	DNA POLYMERASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	753-780								
PIC18_HCMVA	PROB PROC & TRANSPORT PRO UL36	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	294-324								
PIR03_HCMVA	HYPOTHETICAL PROTEIN IRL3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	22-49								
PIR13_HCMVA	HYPOTHETICAL PROTEIN IRL12	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	74-162								
PIR13_HCMVA	HYPOTHETICAL PROTEIN IRL13	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	31-62								
PR11_HCMVA	RIBONUCLEODIPHOSPH REDUCT LARG CHA	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	622-649								
PTEG1_HCMVA	PROBABLE LARGE TEGUMENT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	1251-1281	2202-2239							
PUL08_HCMVA	HYPOTHETICAL PROTEIN UL8	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	6-47								
PUL13_HCMVA	HYPOTHETICAL PROTEIN UL13	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	347-374								
PUL16_HCMVA	HYPOTHETICAL PROTEIN UL16	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	81-112								
PUL20_HCMVA	HYPOTH PRO UL20 PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	34-61								
PUL31_HCMVA	HYPOTHETICAL PROTEIN UL31	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	162-194	254-284							
PUL33_HCMVA	HYPOTHETICAL PROTEIN UL33	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	535-562								
PUL47_HCMVA	PROTEIN UL47	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	114-148	448-485							
PUL50_HCMVA	PROTEIN UL50	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	159-186								
PUL59_HCMVA	HYPOTHETICAL PROTEIN UL59	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	74-101								
PUL70_HCMVA	PROB DNA REP PROTEIN UL70	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	65-92								
PUL73_HCMVA	UL73 GLYCOPROTEIN PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	5-73								
PUL74_HCMVA	HYPOTHETICAL PROTEIN UL74	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	45-79								
PUL93_HCMVA	PROTEIN UL93	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	26-53	314-381							
PUL95_HCMVA	HYPOTHETICAL PROTEIN UL95	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	37-71								
PUL44_HCMVA	VIRION PROTEIN UL104	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	4-31	443-477							
PUL89_HCMVA	HYPOTHETICAL PROTEIN UL119	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	33-78								

PCGENE	1071/784	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS									
PULD0_HCMVA	HYPOTHETICAL PROTEIN UL10	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	90-124								
PUS09_HCMVA	HYPOTHETICAL PROTEIN HOLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	20-47								
PUS14_HCMVA	HYPOTHETICAL PROTEIN HVL4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	277-208								
PUS18_HCMVA	MEMBRANE PROTEIN HWLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	191-218								
PVGLB_HCMVA	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	25-88	397-424	440-467	851-878					
PVGLH_HCMVA	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	107-136								
PVGLI_HCMVA	IE GLYCOPROTEIN PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	47-111	270-297							
PVTER_HCMVA	PROBABLE DNA PACKAGING PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	417-451								
PONBI_HCMVA	MAJOR DNA-BINDING PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	437-464								
PVJOK_HCMVE	30 KD MAJOR EARLY PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN EISENHART)	194-221								
PVGLB_HCMVT	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	50-88	397-424	435-462	852-879					
PVGLH_HCMVT	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	106-135								
PENV_HVIA2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2SF2 ISOLATE)	544-592	630-682	790-835						
PGAG_HVIA2	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2SF2 ISOLATE)	91-118								
PPOL_HVIA2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2SF2 ISOLATE)	218-245	620-661							
PVPU_HVIA2	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2SF2 ISOLATE)	3-31								
PVPU_HVIB1	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 AND HXB1 ISOLATES)	3-48								
PENV_HVIB1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE)	345-594	631-683	791-818						
PPOL_HVIB1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE)	230-257	631-673							
PPOL_HVIB3	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH5 ISOLATE)	230-257	631-673							
PENV_HVIB8	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE)	340-389	626-678	786-813						
PVPU_HVIB8	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE)	21-48								
PENV_HVIBN	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAN ISOLATE)	267-294	338-365	562-590	628-679	787-815				
PVPU_HVIBN	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAN ISOLATE)	22-49								
PENV_HVIBR	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	550-599	636-688	796-823						
PPOL_HVIBR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	230-257	632-673							
PVPU_HVIBR	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	3-48								
PENV_HVICA	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (CDC-431 ISOLATE)	397-424	557-606	643-695	803-835					
PVPU_HVICA	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (CDC-431 ISOLATE)	3-30								
PENV_HVIEL	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	255-296	386-413	543-591	628-680					
PNEF_HVIEL	NEGATIVE FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	81-119								
PPOL_HVIEL	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	217-244	624-660							
PVPU_HVIEL	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	6-33								
PENV_HVIEH2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE)	545-594	631-683	791-818						
PPOL_HVIEH2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE)	218-245	620-661	921-951						
PVPU_HVIEH2	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE)	5-48								
PENV_HVIEH3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB3 ISOLATE)	545-594	631-683	791-818						
PGAG_HVIEH3	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HJ3 ISOLATE)	350-377	556-605	642-694	802-829					
PVPU_HVIEH3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HJ3 ISOLATE)	91-118								
PENV_HVIEH3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HJ3 ISOLATE)	2-29								
PPOL_HVIEH3	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRC5F ISOLATE)	336-363	622-675	783-811						
PVPU_HVIEH3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRC5F ISOLATE)	222-249	624-665							
PENV_HVIEH3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRC5F ISOLATE)	22-49								
PGAG_HVIEH3	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	547-595	633-707	794-826						
PVPU_HVIEH3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	217-244	476-510	619-660						
PENV_HVIEH3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MFA ISOLATE)	532								
PPOL_HVIEH3	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MFA ISOLATE)	543-592	629-681	789-816						
PVPU_HVIEH3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MFA ISOLATE)	143-170	567-595	632-684	791-819					
PENV_HVIEH3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	87-118								
PGAG_HVIEH3	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	221-246	632-664							
PPOL_HVIEH3	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	249-290	536-583	621-673	783-813					
PVPU_HVIEH3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	81-119								
PENV_HVIEH3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	217-244	624-660							
PGAG_HVIEH3	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOLATE)	376-360								
PPOL_HVIEH3	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOLATE)	218-245	623-661							
PVPU_HVIEH3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OY1 ISOLATE)	544-593	630-704	789-820						

PCGENE	107178.4	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	218-245	620-661							
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OY1 ISOLATE)									
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	545-594	631-683	791-818						
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	230-257	637-673							
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	5-48								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	280-307	351-378	554-602	640-692	800-832				
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	217-244	619-660							
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	62-89								
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	338-365	345-393	631-683						
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	333-363	356-385	622-674	782-809					
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	22-49								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	541-589	627-679	787-815						
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	274-301	355-396	637-677	776-824					
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	338-365	345-393	631-683	791-818					
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	334-361	356-384	622-674	782-809					
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	266-307	342-391	634-678	797-828					
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	255-296	342-391	628-680	790-820					
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	217-244	619-660							
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	251-292								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	256-297	345-393	630-682	792-822					
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	86-124								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	61-88	332-391	621-648	653-697					
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	88-115								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	534-593	623-650	655-699						
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	471-562								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	61-88	523-550	555-582	644-688					
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	88-115								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	509-600								
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	60-87	524-551	556-583	613-640	644-693				
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	471-562								
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	61-88	524-551	556-583	613-640	662-689				
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	88-115								
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	471-539								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	58-85	533-592	622-698						
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	472-563								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	557-584	614-673							
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	473-562								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	442-476	527-554	559-586	648-692					
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	88-115								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	491-582								
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	442-476	527-554	559-586	648-692					
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	81-108								
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	30-60								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	157-184	334-361							
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	61-105	312-342							
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	66-93								
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	60-87								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	313-340								
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	59-86								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	75-102								
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	183-210								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	159-186								
POL_HV10Y	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	407-445								
PENV_HV10Y	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	21-48								

PCGENE	1071.1784	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PVE1 HPV2A	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 2A	159-193								
PVE4 HPV21	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 21	75-102								
PVE6 HPV31	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	66-96								
PVE1 HPV33	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	180-207								
PVE2 HPV33	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	304-331								
VL1 HPV33	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	19-46								
PVE2 HPV33	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	158-192								
PVE3 HPV33	PROBABLE E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	27-54	327-354							
PVE1 HPV39	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	103-130								
PVE6 HPV39	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	7-34	321-351							
PVE2 HPV39	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	71-102								
PVE1 HPV41	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	55-89								
PVE4 HPV41	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	63-97								
PVE6 HPV41	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	119-146								
VL1 HPV41	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	345-372								
VL2 HPV41	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	415-442								
PVE1 HPV42	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 42	25-59								
PVE6 HPV45	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 45	75-102								
PVE1 HPV47	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 47	146-173								
PVE2 HPV47	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 47	17-51	148-175	276-303						
PVE2 HPV65	PROBABLE E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5	202-229								
PVE4 HPV65	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5	137-184								
PVE2 HPV51	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	72-99								
PVE6 HPV51	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	19-46								
VL1 HPV51	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	21-48								
PVE2 HPV57	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 57	166-193								
PVE2 HPV58	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	2-36	309-336							
VL1 HPV58	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	45-72								
PVE2 HPV58	PROBABLE E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	17-51								
PVE4 HPV58	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	202-229								
PVE3 HPV58	PROBABLE E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	11-41								
PVE5 HPV58	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	30-60								
PVE5 HPV68	PROBABLE E5A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 68	30-60								
PVE5 HPV68	PROBABLE E5B PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 68	30-60								
VL1 HPV68	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8	334-392								
PVE6 HPV68	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8	71-102								
PRPP HPV68	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PAPILLOMAVIRUS TYPE 8	84-111	234-261	375-416						
PNCAP HPV68	NUCLEOCAPSID PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8	377-404	455-482							
PRPP HPV68	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PAPILLOMAVIRUS TYPE 8	84-111	234-261	375-416						
PVGLF HPV68	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PAPILLOMAVIRUS TYPE 8	147-174	210-266							
PRPP HPV68	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PAPILLOMAVIRUS TYPE 8	84-111	244-271	375-416						
PVNSC HPV68	NONSTRUCTURAL PROTEIN C	HUMAN PAPILLOMAVIRUS TYPE 8	41-75								
PRPP HPV68	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PAPILLOMAVIRUS TYPE 8	84-111	232-262	375-416						
PNCAP HPV68	NUCLEOCAPSID PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8	377-404	444-488							
PRPP HPV68	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PAPILLOMAVIRUS TYPE 8	167-194	222-256							
PVGLF HPV68	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PAPILLOMAVIRUS TYPE 8	90-117	141-175	238-266	483-528					
PRPP HPV68	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PAPILLOMAVIRUS TYPE 8	90-117	141-175	238-266	483-528					
PVGLF HPV68	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PAPILLOMAVIRUS TYPE 8	322-349	1564-1598	1687-1721	1901-1946					
PRPP HPV68	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PAPILLOMAVIRUS TYPE 8	167-194	222-256							
PVGLF HPV68	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PAPILLOMAVIRUS TYPE 8	90-117	141-175	238-266	483-528					
PRPP HPV68	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PAPILLOMAVIRUS TYPE 8	96-123								
PVNSC HPV68	NONSTRUCTURAL PROTEIN C	HUMAN PAPILLOMAVIRUS TYPE 8	27-61								
PNCAP HPV68	NUCLEOCAPSID PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8	376-403								
PRPP HPV68	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PAPILLOMAVIRUS TYPE 8	27-61								
PVNSC HPV68	NONSTRUCTURAL PROTEIN C	HUMAN PAPILLOMAVIRUS TYPE 8	52-86								
PRPP HPV68	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PAPILLOMAVIRUS TYPE 8	114-144	269-299							

PGCENE	1071/284	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	YRUS									
PVNUC_IAGU2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGULL/MARYLAND/104/77)	378-405								
PVNUC_IAGUM	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGULL/MASSACHUSETTS/26/80)	378-405								
PVNUC_IAGUN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGULL/MINNESOTA/94/80)	378-405								
PHEMA_IAHAR	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AHARBIN/188)	29-56								
PVNUC_IAHIC	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AHIC/KO/40)	378-405								
PVNUC_IAHOI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AHONG KONG/1/68)	378-405								
PVNUC_IAH02	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AHONG KONG/5/83)	378-405								
PHEMA_IAXAP	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/JAPAN/203/57)	196-223								
PHEMA_IAXIE	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AXIEV/59/79)	29-56	425-478							
PNRAM_IAXIE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN AXIEV/59/79)	50-81								
PVNUC_IAXIE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AXIEV/59/79)	378-405								
PRR2_IAXOR	RNA-DIRECTED RNA POL SUB P1	INFLUENZA A VIRUS (STRAIN AKOREA/426/68)	575-602								
PRR2_IAXOR	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN AKOREA/426/68)	119-146								
PRR2_IAXE1	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN ALENGRAD/134/1/57)	119-146								
PRR2_IAXE1	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN ALENGRAD/134/57)	171-198								
PVNSI_IAXE1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN ALENGRAD/134/57)	29-56	425-478							
PHEMA_IAXEN	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ALENGRAD/54/1)	50-81								
PNRAM_IAXEN	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN ALENGRAD/54/1)	378-405								
PVNUC_IAXEN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ALENGRAD/54/1)	171-198								
PVNSI_IAXA6	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN AIALARD/ALBERTA/88/76)	380-450								
PHEMA_IAXAA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIALARD/ASTRAKHAN/244/82)	378-405								
PVNUC_IAXAA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AIALARD/ASTRAKHAN/244/82)	385-455								
PHEMA_IAXAB	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIALARD/ASTRAKHAN/26/82)	119-146								
PRR2_IAXAN	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN AIALARD/NEW YORK/6750/78)	378-405								
PVNUC_IAXAN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AIALARD/NEW YORK/6750/78)	387-453								
PHEMA_IAXAO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	40-67	387-453							
PHEMA_IAXE1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	16-43	50-81							
PHEMA_IAXE2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	40-67	387-453							
PHEMA_IAXE3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	24-51	371-437							
PHEMA_IAXE4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	31-58	382-441							
PVNUC_IAXON	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	378-405								
PVNUC_IAXE1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	378-405								
PHEMA_IAXT6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	387-453								
PRR2_IAXT6	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	378-405								
PVNUC_IAXT6	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	378-405								
PHEMA_IAXH1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	16-43	50-81							
PNRAM_IAXAR	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	378-405								
PHEMA_IAXIL	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	505-534								
PRR2_IAXI0	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	119-146								
PVNSI_IAXI1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	171-198								
PVNSI_IAXI1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	171-198								
PHEMA_IAXUE	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	29-56	425-478							
PNRAM_IAXUE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	16-43								
PRR2_IAXUE	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	119-146								
PVNUC_IAXUE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	378-405								
PHEMA_IAXU7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	24-51								
PHEMA_IAXUD	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	381-451								
PRR2_IAXUD	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	119-146								
PVNUC_IAXUD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	378-405								
PNRAM_IAXUE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	49-88								
PHEMA_IAXE0	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	381-451								
PHEMA_IAXE2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	28-56	160-187	506-547						
PHEMA_IAXH2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	378-405								
PVNUC_IAXH2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)	119-146								
PRR2_IAXH2	RNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN AIAENPHIS/17/1)									

PCGENE	1071784	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	KIRSTEN MURINE LEUKEMIA VIRUS	40-81								
PENY MLV1	ENV POLYPROTEIN	MAREK'S DISEASE HERPESVIRUS (STRAIN RB-1B)	93-120	352-379							
PVGLB HSVMD	ENV POLYPROTEIN	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS	473-512								
PENY MCF3	ENV POLYPROTEIN	MOLONEY MURINE LEUKEMIA VIRUS	488-515								
PENY MLVMO	ENV POLYPROTEIN	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	502-543								
PENB1 MCMVS	MAJOR DNA-BINDING PROTEIN	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	584-618								
PIC18 MCMVS	PROB PROC & TRANSPORT PRO	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	661-691								
PVGLB MCMVS	GLYCOPROTEIN B PRECURSOR	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	381-408	441-475							
VIEL MCMVS	IMMEDIATE-EARLY PROTEIN I	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	261-288								
PVE2 PCPV1	E2 PROTEIN	PYGMAY CHIMPANZEE PAPILLOMAVIRUS TYPE I	267-294	327-361							
PVE5 PCPV1	PROBABLE E5 PROTEIN	PYGMAY CHIMPANZEE PAPILLOMAVIRUS TYPE I	35-62								
PENY MLVRD	ENV POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	497-538								
PPOL MLVRD	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	716-743	802-832							
PENY MLVRK	ENV POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	497-538								
PPOL MLVRK	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	101-128	190-217							
PENB1 SCHVC	MAJOR DNA-BINDING PROTEIN	SIMIAN CYTOMEGALOVIRUS (STRAIN COLBURN)	435-462	532-559							
PPOLG HPVAVS	GENOME POLYPROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN AGN4-27)	207-241	1025-1052	1115-1192						
PPOLG HPVAVT	GENOME POLYPROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN CY-145)	203-237								
PENY SIVA1	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM135 ISOLATE)	269-310	561-588	592-619	652-679	697-724				
PPOL SIVA2	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM135 ISOLATE)	431-458	547-574	637-671						
PENY SIVAG	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM286 ISOLATE)	45-72								
PPOL SIVAG	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM286 ISOLATE)	270-301	566-593	597-624	638-685	703-730				
PPOL SIVA3	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	436-463	482-516	642-669						
PENY SIVS4	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	71-98								
PGAG SIVS4	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (F216/SMH4 ISOLATE)	281-308	553-612	642-669	691-718					
PPOL SIVS4	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (F216/SMH4 ISOLATE)	88-115								
PENY SIVA1	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1 / CLONE GRU-1)	257-291	336-372	548-603	634-708					
PGAG SIVA1	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1 / CLONE GRU-1)	473-507								
PNEI SIVA1	NEGATIVE FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1 / CLONE GRU-1)	96-137								
PPOL SIVA1	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1 / CLONE GRU-1)	478-515								
VIF SIVA1	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1 / CLONE GRU-1)	2-36								
PENY SIVGB	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GBI)	8-35	158-185	589-650	784-816					
PPOL SIVGB	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GBI)	227-254	636-670							
PENY SIVMK	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (KAW ISOLATE)	553-608								
PGAG SIVMK	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (KAW ISOLATE)	88-115								
PPOL SIVMK	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (KAW ISOLATE)	531-560								
PENY SIVML	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	549-608								
PENY SIVM1	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (NM142-83 ISOLATE)	120-150	530-609	671-715						
PPOL SIVM1	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (NM142-83 ISOLATE)	533-560								
PENY SIVM2	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (NM142-83 ISOLATE)	156-215	277-289							
PENY SIVSP	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (NM4231 ISOLATE)	286-313	554-595	646-722						
PGAG SIVSP	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PB1/BC11 ISOLATE)	88-115								
PPOL SIVSP	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PB1/BC11 ISOLATE)	499-526								
PENY SIVS4	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (STM ISOLATE)	88-115								
PPOL SIVS4	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	3-30	268-298	590-617	651-678					
PENY SIVAT	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	657-691								
PREV SIVAT	REV PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	41-68								
PENY MPMV	ENV POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	422-470								
PPOL MPMB	POL POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	574-612	670-697							
PGAG MPMB	GAG POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS (NPMV)	222-260								
PEXON VZVD	ALKALINE EXONUCLEASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	109-139								
PHRI VZVB	PROBABLE HELICASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	490-517	701-728							
PRL1 VZVD	RIBONUC-DIPHOSPH REDUCT LARG CHA	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	112-1158	1579-1609							
PTGU VZVD	LARGE TEGUMENT PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	64-101								
PUL14 VZVD	HYPOTHETICAL GENE 46 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	380-407								
PUL21 VZVD	GENE 38 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)									

PCGENE	1071714	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	112-119								
PUL34_VZVD	VIRION GENE 24 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	107-134	485-512	719-746	976-1003					
PUL37_VZVD	GENE 21 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	330-364								
PUL41_VZVD	HOST SHUTOFF VIRION PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	129-156	312-349							
PUL43_VZVD	GENE 13 MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	301-337								
PUL52_VZVD	PROB DNA REP GENE 6 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	295-322								
PVGLC_VZVD	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	174-208	495-522							
PVP40_VZVD	CAPSID PROTEIN P40	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	394-421								
PVTER_VZVD	PROBABLE DNA PACKAGING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	295-322								
PVGLC_WHVS	GLYCOPROTEIN GPV	WOODCHUCK HEPATITIS VIRUS 1	285-326								
PDPOL_WHV1	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1	290-331								
PDPOL_WHV39	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 39	212-242	290-331							
PDPOL_WHV7	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 7	211-241	289-330							
PDPOL_WHV8	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8	212-242	290-331							
PDPOL_WHV81	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8	212-242	290-331							

TABLE VIII

107 X 178 X 4 SEARCH MOTIF RESULTS SUMMARY

FOR ALL PROCARYOTIC PROTEINS

PCGENE	107:17s:4	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	ORGANISM									
P120K_RICRI	120 KD SURFACE-EXPOSED PROTEIN	RICKETTSIA RICKETTSII	83-110	240-298	355-382	638-672	746-838	1168-1202			
P17K_RICRY	17 KD ANTIGEN PRECURSOR	RICKETTSIA TYPHI	67-94								
P190K_RICRI	190 KD ANTIGEN PRECURSOR (CELL SURFACE)	RICKETTSIA RICKETTSII	241-268	460-487	607-634	754-781	829-856	904-931	1220-1254	1544-1571	1723-1750
P22KD_DESMO	22.6 KD PROTEIN	DESULFOCOCCUS MOBILIS	2065-2096	2131-2168							
P40KD_VIBAN	40 KD PROTEIN PRECURSOR	VIBRIO ANGUILLARUM	25-52	59-89	120-147						
P60IM_ECOLI	60 KD INNER-MEMBRANE PROTEIN	ESCHERICHIA COLI	153-196								
P60IM_PROMI	60 KD INNER-MEMBRANE PROTEIN	PROTEUS MIRABILIS	511-538								
P65KD_ZYAMO	65 KD PROTEIN	ZYMOBACILLUS MOBILIS	14-41								
P6PGD_BAGSU	PROB 6-PHOSPHOGLUCONATE DEHYDROGENASE	BACILLUS SUBTILIS	95-122	444-524							
P6PGD_ECOLI	6-PHOSPHOGLUCONATE DEHYDROGENASE	ESCHERICHIA COLI	24-51	218-246							
P6PGD_SALTY	6-PHOSPHOGLUCONATE DEHYDROGENASE	SALMONELLA TYPHIMURUM	205-232								
PAAAC_STAAB	6-AMINOGLYCOSIDE N-ACETYLTRANSFERASE	STAPHYLOCOCCUS AUREUS	450-477								
PAAT_BACSP	ASPARTATE AMINOTRANSFERASE	BACILLUS SP	146-173	185-212							
PAAT_ECOLI	ASPARTATE AMINOTRANSFERASE	ESCHERICHIA COLI	351-378								
PABC_ECOLI	ABC PROTEIN	ESCHERICHIA COLI	176-203								
PABIC_LAGLA	ABORTIVE PHAGE RESISTANCE PROTEIN ABIC	LACTOCOCCUS LACTIS	83-126	170-204	209-273						
PACCR_AGRTU	TRANSCRIPTIONAL REPRESSOR ACCR	AGROBACTERIUM TUMEFACIENS	127-154								
PACFA_ECOLI	ISOCITRATE LYASE	ESCHERICHIA COLI	398-432								
PACON_BACSU	ACONITATE HYDRATASE	BACILLUS SUBTILIS	48-75								
PACON_ECOLI	ACONITATE HYDRATASE	ESCHERICHIA COLI	41-68	613-640							
PACOR_ALCEU	ACEITON CATABOLISM REG PRO	ALCALIGENES EUTROPHUS	83-112								
PACP_ECOLI	ACYL CARRIER PROTEIN	ESCHERICHIA COLI	4-31								
PACRA_ECOLI	ACRIFLAVIN RESISTANCE PROTEIN A PRECURSOR	ESCHERICHIA COLI	213-247								
PACRB_ECOLI	ACRIFLAVIN RESISTANCE PROTEIN B	ESCHERICHIA COLI	520-551								
PACRF_ECOLI	ACRIFLAVIN RESISTANCE PROTEIN F	ESCHERICHIA COLI	512-550	726-753							
PACTI_STRCO	PUTATIVE KETOACYL REDUCTASE	STREPTOMYCES COBLICOLOR	137-184								
PACTA_LISMO	ACTIN-ASSEMBLY INDUCING PROTEIN PRECURSOR	LISTERIA MONOCYTOGENES	237-264	576-603							
PACVS_NOCCLA	ACV SYNTHETASE	NOCARDIA LACTAMURANS	3129-3163								
PADAA_BACSU	METHYLTRANSFERASE	BACILLUS SUBTILIS	136-170								
PADDA_BACSU	ATP-DEPENDENT NUCLEASE SUBUNIT A	BACILLUS SUBTILIS	398-425	454-481	522-556	1005-1032					
PADDB_BACSU	ATP-DEPENDENT NUCLEASE SUBUNIT B	BACILLUS SUBTILIS	257-284	870-903	943-977						
PADHI_CLOAB	NADPH-DEPENDENT BUTANOL DEHYDROGENASE	CLOSTRIDIUM ACETOBUTYLICUM	284-311								
PADHA_CLOAB	NADH-DEPENDENT BUTANOL DEHYDROGENASE A	CLOSTRIDIUM ACETOBUTYLICUM	298-325								
PADHB_CLOAB	NADH-DEPENDENT BUTANOL DEHYDROGENASE B	CLOSTRIDIUM ACETOBUTYLICUM	298-325								
PADHE_CLOAB	ALCOHOL DEHYDROGENASE	CLOSTRIDIUM ACETOBUTYLICUM	633-680	779-806							
PADIE_ECOLI	ALCOHOL DEHYDROGENASE	ESCHERICHIA COLI	271-298								
PADIY_ECOLI	PUTATIVE REGULATORY PROTEIN ADIY	ESCHERICHIA COLI	45-72								
PADPI_MYCOE	140 KD ADHESIN PRECURSOR	MYCOPLASMA GENTALIUM	90-131	697-724	923-950	990-1017	1169-1199	1387-1414			
PADPI_MYCTN	ADHESIN P1 PRECURSOR	MYCOPLASMA PNEUMONIAE	1557-1584								
PADIY_RICPR	ADP-ATP CARRIER PROTEIN	RICKETTSIA PROWAZEKII	276-307								
PAERA_AERHY	AEROLYSIN PRECURSOR	AEROMONAS HYDROPHILA	278-305								
PAGAL_STRMU	ALPHA-GALACTOSIDASE	STREPTOCOCCUS MUTANS	419-483	597-633							
PAGAR_PSEAT	BETA-AGARASE PRECURSOR	PSEUDOMONAS ATLANTICA	26-53								
PAGR_STAAB	ACCESSORY GENE REGULATOR PROTEIN	STAPHYLOCOCCUS AUREUS	129-159	165-192							
PAIY_YEREN	ATTACHING INVAS LOCUS PROTEIN PRECURSOR	YERSINIA ENTEROCOLITICA	19-46								
PAKIH_ECOLI	ASPARTOKINASE I	ESCHERICHIA COLI	3-30	466-493	503-530						
PAKIH_ECOLI	ASPARTOKINASE II	ESCHERICHIA COLI	51-78	608-635							
PAK2_BACSU	ASPARTATE KINASE II ALPHA AND BETA SUBUNITS	BACILLUS SUBTILIS	266-312								
PAKAB_CORGL	ASPARTATE KINASE ALPHA AND BETA SUBUNITS	CORYNEBACTERIUM GLUTAMICUM	5-32								
PAIF_ECOLI	FRUCTOSE-BISPHOSPHATE ALDOLASE	ESCHERICHIA COLI	286-316								
PALGB_PSEAE	ALGINATE BIOSYNTHETIC REG PROTEIN ALGB	PSEUDOMONAS AERUGINOSA	160-194								
PALGE_PSEAE	ALGINATE PRODUCTION PROTEIN ALGE PRECURSOR	PSEUDOMONAS AERUGINOSA	349-376								
PALGP_PSEAE	TRANSCRIPTIONAL REGULATORY PROTEIN ALGP	PSEUDOMONAS AERUGINOSA	81-115								
PALKB_PSEOL	ALKANE-1 MONOOXYGENASE	PSEUDOMONAS OLEOVORANS	115-142								
PALKT_PSEOL	RUBREDOXIN-NAD(+) REDUCTASE	PSEUDOMONAS OLEOVORANS	138-172	338-365							
PALB3_ECOLI	ALANINE RACEMASE, CATABOLIC PRECURSOR	ESCHERICHIA COLI	9-36								

PCGENE	10717844	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PALR_BACST	ALANINE RACEMASE	BACILLUS STEAROTHERMOPHILUS	326-353								
PALSR_BACSU	ALS OPERON REGULATORY PROTEIN	BACILLUS SUBTILIS	119-146								
PALYS_BACSP	AUTOLYSIN PRECURSOR	BACILLUS SP	151-187								
PALYS_BACSU	AUTOLYSIN PRECURSOR	BACILLUS SUBTILIS	147-191								
PALYS_STAAU	AUTOLYSIN	STAPHYLOCOCCUS AUREUS	244-271								
PAMA_STRPN	AMA PROTEIN PRECURSOR	STREPTOCOCCUS PNEUMONIAE	223-264	297-338	446-473						
PAMD_PSECL	AMIDASE	STREPTOCOCCUS PNEUMONIAE	72-99								
PAMIE_STRPN	OLIGOPEPTIDE TRANSPORT PROTEIN AMIE	PSEUDOMONAS CHLOROPHIS	187-214								
PAMPA_ECOLI	AMINOPEPTIDASE A1	ESCHERICHIA COLI	111-138	199-226							
PAMPC_SERMA	BETA-LACTAMASE PRECURSOR	SERRATIA MARCESCENS	231-258								
PAMPL_RICPA	CYTOSOL AMINOPEPTIDASE	RICKETTSIA PROWAZEKII	3-47	72-99							
PAMPN_ECOLI	AMINOPEPTIDASE N	ESCHERICHIA COLI	655-682								
PAMPP_ECOLI	X-PRO AMINOPEPTIDASE	ESCHERICHIA COLI	110-137								
PAMPT_THAQ	AMINOPEPTIDASE T	THERMUS AQUATICUS	281-308								
PAMYI_DICTH	ALPHA-AMYLASE 1	DICTYOGLOMUS THERMOPHILUM	507-534								
PAMY2_DICTH	ALPHA-AMYLASE 2	DICTYOGLOMUS THERMOPHILUM	151-178	507-534							
PAMY3_SALTY	CYTOPLASMIC ALPHA-AMYLASE	SALMONELLA TYPHIMURUM	70-104								
PAMY2_DICTH	ALPHA-AMYLASE 3	DICTYOGLOMUS THERMOPHILUM	280-307								
PAMYB_BACCI	BETA-AMYLASE PRECURSOR	BACILLUS CIRCULANS	61-88								
PAMYB_BACPO	BETA-AMYLASE	BACILLUS POLYMYXA	60-87	266-293	1143-1184						
PAMYB_CLOTU	BETA-AMYLASE, THERMOPHILIC PRECURSOR	CLOSTRIDIUM THERMOSULFUROGENES	269-296	378-405	459-486						
PAMYQ_CLOSP	GLUCOAMYLASE PRECURSOR	CLOSTRIDIUM SP	103-148	480-510							
PAMYM_BACST	MALT-TOGENIC ALPHA-AMYLASE PRECURSOR	BACILLUS STEAROTHERMOPHILUS	426-453								
PAMYR_BAC38	RAW-STARCH-DIGESTING AMYLASE	BACILLUS SP	210-237	435-465	615-642						
PAMYR_AERHY	ALPHA-AMYLASE PRECURSOR	AEROMONAS HYDROPHILA	415-453								
PAMYR_ALTHA	ALPHA-AMYLASE PRECURSOR	ALTERNOMONAS HALOPLANKTIS	166-193								
PAMYR_BACAM	ALPHA-AMYLASE PRECURSOR	BACILLUS AMYLOLIQUEFACIENS	102-136								
PAMYR_BACCI	ALPHA-AMYLASE PRECURSOR	BACILLUS CIRCULANS	212-239	437-474							
PAMYR_BACGE	ALPHA-AMYLASE PRECURSOR	BACILLUS MEGATERIUM	61-88	441-482							
PAMYR_BACSU	ALPHA-AMYLASE PRECURSOR	BACILLUS SUBTILIS	165-205	281-308							
PAMYR_BUTFI	ALPHA-AMYLASE PRECURSOR	BUTYRIVIBRIO FIBRISOL VENS	377-418	546-573	795-822						
PAMYR_CLOAB	PUTATIVE ALPHA-AMYLASE	CLOSTRIDIUM ACETOBYTILICUM	283-310								
PAMYR_CLOTU	ALPHA-AMYLASE PRECURSOR	CLOSTRIDIUM THERMOSULFUROGENES	431-468	612-642							
PAMYR_STRLM	ALPHA-AMYLASE PRECURSOR	STREPTOMYCES LIMOSUS	173-200								
PANFA_AZOV1	NITROGEN FIXATION PROTEIN ANFA	AZOTOBACTER VINELANDII	232-259								
PANFD_AZOV1	NITROGENASE IRON-IRON PROTEIN ALPHA CHAIN	AZOTOBACTER VINELANDII	95-122								
PANFK_AZOV1	NITROGENASE IRON-IRON PROTEIN BETA CHAIN	AZOTOBACTER VINELANDII	369-396								
PANGR_VIBAN	ANGR PROTEIN	VIBRIO ANGUILLARUM	93-120	169-203							
PAPCE_FREDI	PHYCOBILISOME 120 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSPHON	51-78								
PAPCE_SYNP6	PHYCOBILISOME LINKER POLYPEPTIDE	SYNECHOCOCCUS SP	37-64	585-615							
PAPCE_SYNY4	PHYCOBILISOME 120 KD LINKER POLYPEPTIDE	SYNECHOCYSTIS SP	52-79								
PAPHC_SALTY	ALKYL HYDROPEROXIDE REDUCTASE C22 PROTEIN	SALMONELLA TYPHIMURUM	62-89								
PAPL_ACHLY	PROTEASE I PRECURSOR	ACHROMOBACTER LYTICUS	478-503								
PAPPC_ECOLI	PROBABLE CYTOCHROME OXIDASE SUBUNIT I	ESCHERICHIA COLI	118-148								
PAPRD_PSEAE	ALKALINE PHOSPHATASE SECRETION PROTEIN APRD	PSEUDOMONAS AERUGINOSA	416-450								
PAPRE_PSEAE	ALKALINE PHOSPHATASE SECRETION PROTEIN APRE	PSEUDOMONAS AERUGINOSA	133-193	208-235	247-277						
PAPT_ECOLI	ADENINE PHOSPHORIBOSYLTRANSFERASE	ESCHERICHIA COLI	121-148								
PAPU_THIEET	ALPHA-AMYLASE-PULLULANASE PRECURSOR	THERMOANAEROBACTER ETHANOLICUS	276-303	347-374	916-982	987-1014	1210-1254	1381-1408			
PAPCA_MYCAR	ARGININE DEIMINASE	MYCOPLASMA ARGENTINI	60-87	218-245							
PAPCB_ECOLI	AEROBIC RESPIRATION CONTROL PROTEIN ARCB	ESCHERICHIA COLI	102-150	302-329	399-426						
PAPCD_PSEAE	PROBABLE ARGININE/ORNITHINE ANTIPORTER	PSEUDOMONAS AERUGINOSA	274-301	386-420							
PAPGA_ECOLI	AMINO-ACID ACETYLTRANSFERASE	ESCHERICHIA COLI	82-109								
PAPGT_ECOLI	LYS-ARG-ORN-BINDING PROTEIN (LAO) PRECURSOR	ESCHERICHIA COLI	84-111								
PAPQA_STAAU	PHOSPHOSHOKIMATE 1-CARBOXYNYLTRANSFER	STAPHYLOCOCCUS AUREUS	86-120								
PAPQC_ECOLI	CHORISMATE SYNTHASE	ESCHERICHIA COLI	68-95								
PAPQC_SALTY	CHORISMATE SYNTHASE	SALMONELLA TYPHI	68-95								
PAPOD_BACSU	DEHYDROQUINATE DEHYDRATASE	BACILLUS SUBTILIS	49-76								

PCGENE	1071784	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	ORGANISM									
PAROK_ECOLI	SHIKIMATE KINASE I	ESCHERICHIA COLI	84-118								
PARP_STRPY	IGA RECEPTOR PRECURSOR	STREPTOCOCCUS PYOGENES	12-46	127-137	266-324						
PARP_ECOLI	ARP PROTEIN	ESCHERICHIA COLI	255-282								
PARSA_ECOLI	ARSENICAL PUMP-DRIVING ATPASE	ESCHERICHIA COLI	201-238								
PARSB_ECOLI	ARSENICAL PUMP MEMBRANE PROTEIN	ESCHERICHIA COLI	291-318								
PARSB_STAAU	ARSENICAL PUMP MEMBRANE PROTEIN	STAPHYLOCOCCUS AUREUS	27-71	295-322							
PARSB_STAXY	ARSENICAL PUMP MEMBRANE PROTEIN	STAPHYLOCOCCUS XTLOSUS	27-71	295-322							
PARSB_STAAU	ARSENICAL RESIST OPERON REPRESSOR PROTEIN	STAPHYLOCOCCUS AUREUS	56-93								
PARTA_ECOLI	ARTA PROTEIN	ESCHERICHIA COLI	3-30								
PARTI_ECOLI	TRANSPORT SYSTEM PROTEIN ARTI	ESCHERICHIA COLI	103-132	213-240							
PARTP_ECOLI	TRANSPORT SYSTEM PROTEIN ARTP	ESCHERICHIA COLI	176-206								
PASAI_ENTFA	AGGREGATION SUBSTANCE PRECURSOR	ENTEROCOCCUS FAECALIS	195-234	478-505	799-826	859-896					
PASNA_ECOLI	ASPARTATE-AMMONIA LIGASE	ESCHERICHIA COLI	127-158								
PASND_ECOLI	ASPARAGINE SYNTHETASE II	ESCHERICHIA COLI	440-477								
PASNC_ECOLI	REGULATORY PROTEIN ASNC	ESCHERICHIA COLI	116-141								
PASPA_BACSU	ASPARTATE AMMONIA-LYASE	BACILLUS SUBTILIS	734								
PASPA_ECOLI	ASPARTATE AMMONIA-LYASE	ESCHERICHIA COLI	204-236								
PASPA_SERMA	ASPARTATE AMMONIA-LYASE	SERRATIA MARCESCENS	204-231								
PASPO_BACLI	L-ASPARAGINASE	BACILLUS LICHENIFORMIS	252-288								
PASPO_ERWCH	L-ASPARAGINASE PRECURSOR	ERWINIA CHIRYSANTHEMI	188-218								
PASPO_ACIGL	GLUTAMINASE-ASPARAGINASE	ACINETOBACTER GLUTAMINASIFICANS	46-80								
PASSY_ECOLI	ARGININOSUCCINATE SYNTHASE	ESCHERICHIA COLI	354-381								
PASSY_METBA	ARGININOSUCCINATE SYNTHASE	METHANOSARCINA BARKERI	287-314								
PATB_STAAU	POTENTIAL ATP-BINDING PROTEIN	STAPHYLOCOCCUS AUREUS	41-68	201-245							
PATKA_ENTFA	POTASSIUM/COPPER-TRANSPORTING ATPASE A	ENTEROCOCCUS FAECALIS	41-80	347-374							
PATKB_ENTFA	POTASSIUM/COPPER-TRANSPORTING ATPASE B	ENTEROCOCCUS FAECALIS	280-310	450-477							
PATMB_SALTY	MG(2+) TRANSPORT ATPASE, P-TYPE	SALMONELLA TYPHIMURIUM	503-530								
PATPB_SYNP6	ATP SYNTHASE A CHAIN	SYNECHOCOCCUS SP	233-260								
PATPB_VIBAL	ATP SYNTHASE A CHAIN	VIBRIO ALGINOLYTICUS	11-38								
PATPA_ANASP	ATP SYNTHASE ALPHA CHAIN	ANABAENA SP	9-36	96-130							
PATPA_BACME	ATP SYNTHASE ALPHA CHAIN	BACILLUS MEGATERIUM	4-36	431-480							
PATPA_ECOLI	ATP SYNTHASE ALPHA CHAIN	ESCHERICHIA COLI	486-513								
PATPA_ENTFA	ATP SYNTHASE ALPHA CHAIN	ENTEROCOCCUS FAECALIS	4-36	484-518							
PATPA_MYCGA	ATP SYNTHASE ALPHA CHAIN	MYCOPLASMA GALLISEPTICUM	362-409								
PATPA_PROMO	ATP SYNTHASE ALPHA CHAIN	PROPIONIGENIUM MODESTUM	6-36								
PATPA_RHORU	ATP SYNTHASE ALPHA CHAIN	RHODOSPIRILLUM RUBRUM	165-200	459-486							
PATPA_SULAC	ATPASE ALPHA CHAIN	SULFOLOBUS ACIDOCALDARIUS	318-345	562-589							
PATPA_SYNP1	ATP SYNTHASE ALPHA CHAIN	SYNECHOCOCCUS SP	7-44								
PATPA_SYNP6	ATP SYNTHASE ALPHA CHAIN	SYNECHOCOCCUS SP	8-45	362-389							
PATPA_SYNP3	ATP SYNTHASE ALPHA CHAIN	SYNECHOCYSTIS SP	8-37	454-500							
PATPA_THERP1	ATP SYNTHASE ALPHA CHAIN	THERMOPHILIC BACTERIUM PS-3	9-36								
PATPA_VIBAL	ATP SYNTHASE ALPHA CHAIN	VIBRIO ALGINOLYTICUS	464-513								
PATPB_ANASP	ATP SYNTHASE BETA CHAIN	ANABAENA SP	280-307	370-397							
PATPB_BACFI	ATP SYNTHASE BETA CHAIN	BACILLUS FIRMIUS	163-190	358-385							
PATPB_MYCGA	ATP SYNTHASE BETA CHAIN	MYCOPLASMA GALLISEPTICUM	375-402								
PATPB_RHORU	ATP SYNTHASE BETA CHAIN	RHODOSPIRILLUM RUBRUM	359-386								
PATPB_SULAC	ATPASE BETA CHAIN	SULFOLOBUS ACIDOCALDARIUS	164-191								
PATPB_SYNP1	ATP SYNTHASE BETA CHAIN	SYNECHOCOCCUS SP	381-408								
PATPB_SYNP6	ATP SYNTHASE BETA CHAIN	SYNECHOCOCCUS SP	291-318	381-408							
PATPB_SYNP3	ATP SYNTHASE BETA CHAIN	SYNECHOCYSTIS SP	381-408								
PATPD_BACFI	ATP SYNTHASE DELTA CHAIN	ANABAENA SP	109-139	143-170							
PATPD_BACME	ATP SYNTHASE DELTA CHAIN	BACILLUS MEGATERIUM	63-90	133-160							
PATPD_ENTFA	ATP SYNTHASE DELTA CHAIN	BACILLUS MEGATERIUM	132-159								
PATPD_PROMO	ATP SYNTHASE DELTA CHAIN	PROPIONIGENIUM MODESTUM	14-41								
PATPD_RHOB1	ATP SYNTHASE DELTA CHAIN	RHODOPSEUDOMONAS BLASTICA	79-116	118-149							
PATPD_RHORU	ATP SYNTHASE DELTA CHAIN	RHODOSPIRILLUM RUBRUM	125-152								
PATPD_RHOB2	ATP SYNTHASE DELTA CHAIN	RHODOSPIRILLUM RUBRUM	119-146								

PCGENE	1071784	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	ORGANISM									
PATPD_SYN1	ATP SYNTHASE DELTA CHAIN	SYNECHOCOCCUS SP	100-127								
PATPD_SYN3	ATP SYNTHASE DELTA CHAIN	SYNECHOCOCCUS SP	113-147								
PATPD_VIBAL	ATP SYNTHASE DELTA CHAIN	VIBRIO ALGINOLYTICUS	110-137								
PATPD_BACFI	ATP SYNTHASE EPSILON CHAIN	BACILLUS FIRMUS	53-80								
PATPE_MYCGA	ATP SYNTHASE EPSILON CHAIN	MYCOPLASMA GALLISEPTICUM	99-126								
PATPE_PROMO	ATP SYNTHASE EPSILON CHAIN	PROPIONIGENTUM MODESTUM	100-127								
PATPE_SYN1	ATP SYNTHASE EPSILON CHAIN	SYNECHOCOCCUS SP	72-106								
PATPF_ANASP	ATP SYNTHASE B CHAIN	ANABAENA SP	17-44	51-78	137-164						
PATPF_BACFI	ATP SYNTHASE B CHAIN	BACILLUS FIRMUS	110-151								
PATPF_BACME	ATP SYNTHASE B CHAIN	BACILLUS MEGATERIUM	55-85	122-170							
PATPF_MYCGA	ATP SYNTHASE B CHAIN	MYCOPLASMA GALLISEPTICUM	82-135	170-197							
PATPE_SYN1	ATP SYNTHASE B CHAIN	SYNECHOCOCCUS SP	15-49	111-159							
PATPF_SYN6	ATP SYNTHASE B CHAIN	SYNECHOCOCCUS SP	12-39	128-155							
PATPE_THEP3	ATP SYNTHASE B CHAIN PRECURSOR	THERMOPHILIC BACTERIUM PS-3	50-77								
PATPD_ANASP	ATP SYNTHASE GAMMA CHAIN	ANABAENA SP	276-310								
PATPD_ECOLI	ATP SYNTHASE GAMMA CHAIN	ESCHERICHIA COLI	253-283								
PATPD_MYCGA	ATP SYNTHASE GAMMA CHAIN	MYCOPLASMA GALLISEPTICUM	28-62	92-140							
PATPD_RHORU	ATP SYNTHASE GAMMA CHAIN	RHODOSPIRILLUM RUBRUM	270-297								
PATPD_SYN1	ATP SYNTHASE GAMMA CHAIN	SYNECHOCOCCUS SP	280-307								
PATPD_SYN3	ATP SYNTHASE GAMMA CHAIN	SYNECHOCOCCUS SP	96-126	280-307							
PATPI_MYCGA	ATP SYNTHASE PROTEIN I	MYCOPLASMA GALLISEPTICUM	133-167								
PATPX_ANASP	ATP SYNTHASE B' CHAIN	ANABAENA SP	129-156								
PATPX_BACFI	ATP SYNTHASE BETA CHAIN	BACILLUS FIRMUS	162-189	336-383							
PATPX_RHORU	ATP SYNTHASE B' CHAIN	RHODOSPIRILLUM RUBRUM	40-74								
PATPX_SYN1	ATP SYNTHASE B' CHAIN	SYNECHOCOCCUS SP	57-110	128-155							
PATPX_SYN6	ATP SYNTHASE B' CHAIN	SYNECHOCOCCUS SP	70-100								
PATPX_SYN3	ATP SYNTHASE B' CHAIN	SYNECHOCOCCUS SP	108-135								
PATPX_BACME	ATP SYNTHASE PROTEIN I	BACILLUS MEGATERIUM	14-62								
PATPD_SYN1	ATP SYNTHASE PROTEIN I	SYNECHOCOCCUS SP	90-131								
PATPD_PSESG	ATP SYNTHASE B' CHAIN	PSEUDOMONAS SYRINGAE	184-211	233-260							
PBAT1_EUBSP	7-ALPHA-HYDROXYSTEROID DEHYDROGENASE	EUBACTERIUM SP	26-53								
PBAT2_EUBSP	7-ALPHA-HYDROXYSTEROID DEHYDROGENASE	EUBACTERIUM SP	26-53								
PBAT3_HALUM	HALORHODOPSIN	HALOBACTERIUM HALOBIVUM	145-179								
PBAT4_HALUM	HALORHODOPSIN	HALOBACTERIUM SP	180-214								
PBAT5_ECOLI	SENSOR PROTEIN BAES	ESCHERICHIA COLI	152-186								
PBAT6_STRAG	IGA FC RECEPTOR PRECURSOR	STREPTOCOCCUS AGALACTIAE	92-119	138-204	267-306	343-385	487-524	562-589	1014-1041		
PBAT7_VITSP	BACTERIAL HEMOGLOBIN	VITREOSCILLA SP	119-146								
PBAT8_EUBSP	BILE ACID-INDUCIBLE OPERON C	EUBACTERIUM SP	423-450								
PBAT9_ECOLI	SENSOR PROTEIN BARA	ESCHERICHIA COLI	334-361	425-455							
PBAT10_ECOLI	SENSOR PROTEIN BASS	ESCHERICHIA COLI	122-156								
PBAT11_HALJA	PUTATIVE BACTERIO-OPSIN ACTIVATOR	HALOBACTERIUM HALOBIVUM	408-442								
PBAT12_ECOLI	BAX PROTEIN	ESCHERICHIA COLI	21-64								
PBAT13_ECOLI	BIOTIN CARBOXYL CARRIER PROTEIN	ESCHERICHIA COLI	6-35								
PBAT14_RHOCA	METHYLTRANSFERASE	RHODOBACTER CAPSULATUS	1000-1032								
PBAT15_RHOCA	PROTEIN KINASE REDUCTASE 40 KD CHAIN	RHODOBACTER CAPSULATUS	249-276								
PBAT16_CLOPE	BACTERIOCLIN BCN3	CLOSTRIDIUM PERFRINGENS	72-99	585-646							
PBAT17_PROAE	BACTERIOCHLOROPHYLL A PROTEIN	PROSTHECOCHLORIS AESTUARII	63-93								
PBAT18_ACEXY	CELLULOSE SYNTHASE OPERON C PROTEIN	ACETOBACTER XYLINUM	131-158	1035-1082							
PBAT19_ACEXY	CELLULOSE SYNTHASE OPERON D PROTEIN	ACETOBACTER XYLINUM	10-37								
PBAT20_ACEXY	BENZOATE 1,2-DIOXYGENASE ALPHA SUBUNIT	ACINETOBACTER CALCOACETICUS	190-217								
PBAT21_ECOLI	HIGH AFFINITY CHOLINE TRANSPORT PROTEIN	ESCHERICHIA COLI	243-270								
PBAT22_HAEIN	BEXA PROTEIN	HAEMOPHILUS INFLUENZAE	23-50								
PBAT23_HAEIN	BEXC PROTEIN	HAEMOPHILUS INFLUENZAE	157-184	226-253							
PBAT24_HAEIN	BEXD PROTEIN	HAEMOPHILUS INFLUENZAE	205-239								
PBAT25_NITWI	BACTERIOFERRITIN	NITROBACTER WINOGRADSKYI	8-35								
PBAT26_ECOLI	EVOLVED BETA-GALACTOSIDASE ALPHA-SUBUNIT	ESCHERICHIA COLI	955-985								
PBAT27_BACST	BETA-GALACTOSIDASE	BACILLUS STEAROTHERMOPHILUS	599-633								

PCGENE	1071784	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	ORGANISM	824-851								
PBGAL_CLOAB	BETA-GALACTOSIDASE	CLOSTRIDIUM ACETOBUTYLICUM	161-191								
PBGAL_CLOTU	BETA-GALACTOSIDASE	CLOSTRIDIUM THERMOSULFUROGENES	245-272								
PBGAL_KLEPN	BETA-GALACTOSIDASE	KLBSIELLA PNEUMONIAE	305-332								
PBGAL_LACDE	BETA-GALACTOSIDASE	LACTOBACILLUS DELBRUECKII	188-215								
PBGAL_STRTR	BETA-GALACTOSIDASE	STREPTOCOCCUS THERMOPHILUS	59-86	179-206							
PBGAL_SULSO	BETA-GALACTOSIDASE	SULFOLOBUS SOLFATARICUS	129-156								
PBGAM_LEULA	BETA-GALACTOSIDASE SMALL SUBUNIT	LEUCONOSTOC LACTIS	106-140								
PBGAM_SULSO	BETA-GALACTOSIDASE	SULFOLOBUS SOLFATARICUS	353-380	418-445							
PBGAL_CLOTM	BETA-GALACTOSIDASE A	CLOSTRIDIUM THERMOCELLUM	259-286	375-409	631-665						
PBGAL_CLOTM	THERMOSTABLE BETA-GLUCOSIDASE B	CLOSTRIDIUM THERMOCELLUM	464-494	554-581							
PBGAL_ECOLI	BETA-GLUCONIDASE	ESCHERICHIA COLI	421-448								
PBGAL_AGRSP	BETA-GLUCONIDASE	AGROBACTERIUM SP	85-112	435-462	692-719	738-765					
PBGAL_BUTFI	BETA-GLUCOSIDASE A	BUTYRIVIBRIO FIBRISOLVENS	60-87								
PBGAL_STAAU	POTENTIAL DNA-INVERTASE BIN3	STAPHYLOCOCCUS AUREUS	163-197								
PBGAL_STAAU	TRANSPOSON TN552 RESOLVASE	STAPHYLOCOCCUS AUREUS	163-197								
PBGAL_BACSH	DNA-INVERTASE BINR	STAPHYLOCOCCUS AUREUS	163-190								
PBGAL_BACSH	AMINOTRANSFERASE	BACILLUS SPHAERICUS	33-60								
PBGAL_BACSH	BIOTIN SYNTHETASE	BACILLUS SPHAERICUS	145-172								
PBGAL_BACSH	BIOTIN SYNTHETASE	ESCHERICHIA COLI	130-157								
PBGAL_BACSH	DETHIOTIN SYNTHASE	BACILLUS SPHAERICUS	144-171								
PBGAL_BACCE	BETA-LACTAMASE PRECURSOR, TYPE I	BACILLUS CEREUS	91-118	275-305							
PBGAL_BACIN	BETA-LACTAMASE ROB-1 PRECURSOR	HAEMOPHILUS INFLUENZAE	152-179	204-231							
PBGAL_BACCE	BETA-LACTAMASE PRECURSOR, TYPE II	BACILLUS CEREUS	18-67	201-228							
PBGAL_BACSP	BETA-LACTAMASE PRECURSOR, TYPE II	BACILLUS SP	18-67								
PBGAL_BACE	BETA-LACTAMASE PRECURSOR, TYPE III	BACILLUS CEREUS	35-83	95-129							
PBGAL_PSEAE	BETA-LACTAMASE PSE-4 PRECURSOR	PSEUDOMONAS AERUGINOSA	19-50								
PBGAL_BACPR	BETA-LACTAMASE PRECURSOR, TYPE II	BACILLUS CEREUS	20-66	200-227							
PBGAL_BACPR	BETA-LACTAMASE PRECURSOR, TYPE II	BACTEROIDES FRAGILIS	22-49								
PBGAL_BACCE	BETA-LACTAMASE PRECURSOR, TYPE I	BACILLUS CEREUS	93-120	276-303							
PBGAL_BACLI	BETA-LACTAMASE PRECURSOR	BACILLUS LICHENIFORMIS	47-74	86-115							
PBGAL_PROMI	BETA-LACTAMASE PRECURSOR	PROTEUS MIRABILIS	191-221								
PBGAL_PROVU	BETA-LACTAMASE	PROTEUS VULGARIS	4-38	240-267							
PBGAL_STRAL	BETA-LACTAMASE PRECURSOR	STREPTOMYCES ALBUS G	43-70								
PBGAL_KLEPN	BETA-LACTAMASE PRECURSOR	KLBSIELLA PNEUMONIAE	121-148								
PBGAL_STAAU	PENICILLINASE REPRESSOR	STAPHYLOCOCCUS AUREUS	19-74	99-126							
PBGAL_ECOLI	BETA-LACTAMASE PRECURSOR	ESCHERICHIA COLI	118-166	235-262							
PBGAL_ECOLI	BETA-LACTAMASE PSE-2 PRECURSOR	ESCHERICHIA COLI	155-196								
PBGAL_BACLI	REGULATORY PROTEIN BLAR1	BACILLUS LICHENIFORMIS	129-156	515-552							
PBGAL_STAAU	REGULATORY PROTEIN BLAR1	STAPHYLOCOCCUS AUREUS	87-114	122-161	234-261	281-312	503-539				
PBGAL_TREPA	BASIC MEMBRANE PROTEIN PRECURSOR	TREPONEMA PALLIDUM	312-346								
PBGAL_PSEPU	MULTIDRUG RESISTANCE PROTEIN	BACILLUS SUBTILIS	277-304								
PBGAL_PSEPU	BENZENE 1,2-DIOXYGENASE ALPHA SUBUNIT	PSEUDOMONAS PUTIDA	36-63								
PBGAL_PSEPU	BENZENE 1,2-DIOXYGENASE BETA SUBUNIT	PSEUDOMONAS PUTIDA	119-153								
PBGAL_PSEPU	P4 SUBUNIT	PSEUDOMONAS PUTIDA	179-213								
PBGAL_PSEAM	BP52 PROTEIN	DESULFURELLOBUS AMBIVALENS	157-237	242-290	311-355	391-425	543-573				
PBGAL_PSEAE	CARRIER PROTEIN	PSEUDOMONAS AERUGINOSA	260-287	313-340							
PBGAL_PSEAE	TRANSPORT PROTEIN BRAE	PSEUDOMONAS AERUGINOSA	254-281								
PBGAL_PSEAE	BRAO PROTEIN	PSEUDOMONAS AERUGINOSA	7-34								
PBGAL_ECOLI	VITAMIN B12 RECEPTOR PRECURSOR	ESCHERICHIA COLI	439-466								
PBGAL_ECOLI	VITAMIN B12 TRANSPORT PERIPLASMIC PROTEIN	ESCHERICHIA COLI	6-13								
PBGAL_BORPE	TRANSCRIPTION REGULATOR BVGA	BORDETTELLA PERTUSSIS	174-205								
PBGAL_BORPE	PERIPLASMIC PROTEIN BVGB PRECURSOR	BORDETTELLA PERTUSSIS	116-143								
PBGAL_BORPE	SENSOR PROTEIN BVGC	BORDETTELLA PERTUSSIS	39-66	202-229							
PBGAL_BORBR	VRULENCE BVGS PROTEIN PRECURSOR	BORDETTELLA BRONCHISEPTICA	113-143	341-368	501-531						
PBGAL_CLOBO	BOTULINUM NEUROTOXIN TYPE A PRECURSOR	CLOSTRIDIUM BOTULINUM	315-340	686-729	733-762	815-842	851-893	968-995	1159-1207		
PBGAL_CLOBO	BOTULINUM NEUROTOXIN TYPE B PRECURSOR	CLOSTRIDIUM BOTULINUM	666-693	720-762	802-832	853-890	1004-1031	1058-1089			

PCGENE	10717844	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILE NAME	PROTEIN	ORGANISM									
PBXCI_CLOBO	BOTULINUM NEUROTOXIN TYPE C1 PRECURSOR	CLOSTRIDIUM BOTULINUM	86-113	314-341	730-773	798-825	850-892				
PBXD_CLOBO	BOTULINUM NEUROTOXIN TYPE D PRECURSOR	CLOSTRIDIUM BOTULINUM	475-500	526-576	727-770	804-831	847-892	906-963	1060-1087		
PBXE_CLOBO	BOTULINUM NEUROTOXIN TYPE E PRECURSOR	CLOSTRIDIUM BOTULINUM	254-291	350-381	704-753	773-811	890-917	992-1019	1115-1149		
PBXF_CLOBO	BOTULINUM NEUROTOXIN TYPE F PRECURSOR	CLOSTRIDIUM BUTYRICUM	254-291	350-381	704-753	774-808	890-917	992-1019	1115-1149		
PBXF_CLOBO	BOTULINUM NEUROTOXIN TYPE F PRECURSOR	CLOSTRIDIUM BOTULINUM	669-710	735-772	892-919	1013-1040	1095-1122	1183-1210			
PBXF_CLOBO	CYTOTOXIN C550	MICROCYSTIS AERUGINOSA	3-30								
PCADA_BACFI	PROBABLE CADMIUM-TRANSPORTING ATPASE	BACILLUS FIRMUS	30-57	100-131	165-192	276-306	533-567				
PCADA_STAAU	PROBABLE CADMIUM-TRANSPORTING ATPASE	STAPHYLOCOCCUS AUREUS	282-309	536-570							
PCADC_ECOLI	TRANSCRIPTIONAL ACTIVATOR CADC	ESCHERICHIA COLI	54-85	412-443							
PCAPA_TERPE	F1 CAPSULE ANCHORING PROTEIN PRECURSOR	YERSINIA PESTIS	203-240	416-457	530-557	619-646					
PCAPB_BACAN	CAPA PROTEIN	BACILLUS ANTHRACIS	108-138								
PCAPB_BACAN	CAPA PROTEIN	BACILLUS ANTHRACIS	36-70								
PCAPP_ANANI	PHOSPHOENOLPYRUVATE CARBOXYLASE	ANACYSTIS NIDULANS	248-293								
PCAPP_ANASP	PHOSPHOENOLPYRUVATE CARBOXYLASE	ANABAENA SP	98-125	157-184	687-728						
PCAPP_CORGL	PHOSPHOENOLPYRUVATE CARBOXYLASE	CORYNEBACTERIUM GLUTAMICUM	15-42								
PCAPP_ECOLI	PHOSPHOENOLPYRUVATE CARBOXYLASE	ESCHERICHIA COLI	35-62								
PCARA_BACSU	CARBAMOYL-PHOSPHATE SYNTHASE	BACILLUS SUBTILIS	274-319								
PCARB_ECOLI	CARBAMOYL-PHOSPHATE SYNTHASE	BACILLUS SUBTILIS	290-831								
PCAT1_STAAU	CARBAMOYL-PHOSPHATE SYNTHASE LARGE CHAI	ESCHERICHIA COLI	454-481								
PCAT2_STAAU	CHLORAMPHENICOL ACETYLTRANSFERASE	STAPHYLOCOCCUS AUREUS	7-34	87-114							
PCAT3_STAAU	CHLORAMPHENICOL ACETYLTRANSFERASE	STAPHYLOCOCCUS AUREUS	7-34	87-114							
PCATA_ACICA	CATECHOL 1,2-DIOXYGENASE	ACINETOBACTER CALCOACETICUS	31-65								
PCATA_BAGST	PEROXIDASE / CATALASE	BACILLUS STEAROTHERIOPHILUS	440-470								
PCATA_ECOLI	CATALASE HPI	ESCHERICHIA COLI	579-606								
PCATA_MICLU	CATALASE	MICROCOCCUS LUTEUS	433-480								
PCATA_SALTY	CATALASE HPI	SALMONELLA TYPHIMURIUM	515-542	580-607							
PCATE_ECOLI	CATALASE HPI	ESCHERICHIA COLI	175-202								
PCAT1_CAMCO	CHLORAMPHENICOL ACETYLTRANSFERASE	CAMPYLOBACTER COLI	84-111								
PCAT2_CLOBU	CHLORAMPHENICOL ACETYLTRANSFERASE	CLOSTRIDIUM BUTYRICUM	88-115								
PCAT3_ECOLI	CHLORAMPHENICOL ACETYLTRANSFERASE	ESCHERICHIA COLI	92-119								
PCAT4_PROMI	CHLORAMPHENICOL ACETYLTRANSFERASE	PROTEUS MIRABILIS	92-119								
PCAT5_STAG	CHLORAMPHENICOL ACETYLTRANSFERASE	STAPHYLOCOCCUS INTERMEDIUS	7-34	87-114							
PCAT6_STAG	CHLORAMPHENICOL ACETYLTRANSFERASE	STREPTOCOCCUS AGALACTIAE	7-34	87-114							
PCBHE_COXBU	CBHE PROTEIN	COXIELLA BURNETII	209-236								
PCBPT_THERVU	CARBOXYPEPTIDASE T PRECURSOR	THERMOACTINOMYCES VULGARIS	48-75								
PCCA_ECOLI	TRNA NUCLEOTIDYLTRANSFERASE	ESCHERICHIA COLI	376-403								
PCOMK_STNPF	CO2 CONC MECH PROTEIN COMK	SYNECHOCOCCUS SP	29-56								
PCOMM_STNPF	CO2 CONC MECH PROTEIN COMM	SYNECHOCOCCUS SP	212-236	331-372	445-486						
PCDAS_THERT	CYCLOMAL TODEXTRINASE	THERMOANAEROBACTER ETIHANOLICUS	305-332								
PCDGI_BACMA	CYCLOMAL TODEXTRINASE	BACILLUS MACERANS	439-466	616-643							
PCDGI_BACMA	CYCLOMAL TODEXTRINASE	BACILLUS MACERANS	210-251	436-466	615-642						
PCDGT_BACCI	CYCLOMAL TODEXTRINASE	BACILLUS CIRCULANS	217-244	442-472	594-631						
PCDGT_BACLI	CYCLOMAL TODEXTRINASE	BACILLUS LICHENIFORMIS	217-244	442-472	594-647						
PCDGT_BACOH	CYCLOMAL TODEXTRINASE	BACILLUS OHBENSIS	410-471								
PCDGT_BACSO	CYCLOMAL TODEXTRINASE	BACILLUS SP	210-237	435-462	615-642						
PCDGT_BACSU	CYCLOMAL TODEXTRINASE	BACILLUS SP	409-471								
PCDGT_BACSU	CYCLOMAL TODEXTRINASE	BACILLUS SP	210-237	435-462	614-641						
PCDGT_BACSU	CYCLOMAL TODEXTRINASE	BACILLUS SP	210-237	435-465	615-642						
PCDGT_BACSU	CYCLOMAL TODEXTRINASE	BACILLUS SP	217-244	442-472	594-631						
PCDGT_BACST	CYCLOMAL TODEXTRINASE	BACILLUS STEAROTHERIOPHILUS	586-646								
PCDGT_KLEPN	CYCLOMAL TODEXTRINASE	KLEBSIELLA PNEUMONIAE	212-239								
PCEA1_ECOLI	COLICIN E1 PROTEIN	ESCHERICHIA COLI	44-71	285-326							
PCEA1_SHSO	COLICIN E1 PROTEIN	SHIGELLA SONNEI	44-71	284-325	413-440						
PCEA2_ECOLI	COLICIN E2	ESCHERICHIA COLI	334-368								
PCEA3_ECOLI	COLICIN E3	ESCHERICHIA COLI	334-368								
PCEA6_ECOLI	COLICIN E6	ESCHERICHIA COLI	334-368								
PCEAB_ECOLI	COLICIN B	ESCHERICHIA COLI	283-341								

PCGENE	10717844	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILE NAME	PROTEIN	ORGANISM									
PCAD ECOLI	COLICIN D	ESCHERICHIA COLI	284-311								
PCAM ECOLI	COLICIN M	ESCHERICHIA COLI	178-227								
PCAN ECOLI	COLICIN N	ESCHERICHIA COLI	119-146	173-200							
PCA CITR	COLICIN A	CITROBACTER FREUNDII	228-258								
PCFD STRGL	ISOPENICILLIN N EPIMERASE	STREPTOMYCES CLAVULIGERUS	370-397								
PCFA ECOLI	COLICIN IA PROTEIN	ESCHERICHIA COLI	68-95	255-282	378-412	415-452					
PCIB ECOLI	COLICIN IB PROTEIN	ESCHERICHIA COLI	68-95	255-282	378-412	415-452					
PCFA ACXY	UTP URIDYL-TRANSFERASE	ACETOBACTER XYLINUM	59-89								
PCFA ECOLI	PROTEIN CELA	ESCHERICHIA COLI	76-103								
PCFAA ECOLI	CFIAI FIMBRIAL SUBUNIT A PRECURSOR	ESCHERICHIA COLI	27-58								
PCFAC ECOLI	CFIAI FIMBRIAL SUBUNIT C PRECURSOR	ESCHERICHIA COLI	138-187	388-456	561-595						
PCFAD ECOLI	CFIAI FIMBRIAL SUBUNIT D	ESCHERICHIA COLI	131-160								
PCFAE ECOLI	CFIAI FIMBRIAL SUBUNIT E	ESCHERICHIA COLI	180-207	244-271							
PCHI0 ACYPS	10 KD CHAPERONIN	ACRYTHOSIPHON PISUM SYMBIOTIC BACTERIU	57-95								
PCHI0 BACSU	10 KD CHAPERONIN	BACILLUS SUBTILIS	66-93								
PCHI0 CHLTR	10 KD CHAPERONIN	CHLAMYDIA TRACHOMATIS	64-91								
PCHI0 ECOLI	10 KD CHAPERONIN	ESCHERICHIA COLI	57-84								
PCHI0 HAEDU	10 KD CHAPERONIN	HAEMOPHILUS DUCREYI	68-95								
PCHI0 LEGMI	10 KD CHAPERONIN	LEGIONELLA MICDADEI	57-84								
PCHI0 RUCTS	10 KD CHAPERONIN	RICKETTSIA TSUTSUGAMUSHI	65-92								
PCHI0 THEP3	10 KD CHAPERONIN	THERMOPHILIC BACTERIUM PS-3	66-93								
PCHI0 ACYPS	60 KD CHAPERONIN	ACRYTHOSIPHON PISUM SYMBIOTIC BACTERIU	341-382								
PCHA0 AGRTU	60 KD CHAPERONIN	AGROBACTERIUM TUMEFACIENS	117-163	339-370	425-466						
PCHA0 AMOPS	60 KD CHAPERONIN	ANOEBA PROTEUS SYMBIOTIC BACTERIUM	299-333								
PCHA0 BACSU	60 KD CHAPERONIN	BACILLUS SUBTILIS	299-332	337-364							
PCHA0 BORBU	60 KD CHAPERONIN	BORRELLIA BURGDORFERI	125-163	299-368							
PCHA0 BRUAB	60 KD CHAPERONIN	BRUCELLA ABORTUS	117-144	339-366							
PCHA0 CHLPN	60 KD CHAPERONIN	CHLAMYDIA PNEUMONIAE	4-31								
PCHA0 CHLTR	60 KD CHAPERONIN	CHLAMYDIA TRACHOMATIS	4-31								
PCHA0 CHRV1	60 KD CHAPERONIN	CHROMATIUM VITOSUM	300-327								
PCHA0 CLOAB	60 KD CHAPERONIN	CLOSTRIDIUM ACETOBUTYLICUM	238-332	337-364	455-482						
PCHA0 CLOPE	60 KD CHAPERONIN	CLOSTRIDIUM PERFRINGENS	337-368	417-444							
PCHA0 COXBU	60 KD CHAPERONIN	COXIELLA BURNETII	300-327	348-382							
PCHA0 HAEDU	60 KD CHAPERONIN	HAEMOPHILUS DUCREYI	339-366	417-444							
PCHA0 LEGMI	60 KD CHAPERONIN	LEGIONELLA MICDADEI	299-333								
PCHA0 LEOPN	60 KD CHAPERONIN	LEGIONELLA PNEUMOPHILA	298-332	452-479							
PCHA0 MYCLE	60 KD CHAPERONIN	MYCOBACTERIUM LEPRAE	125-152	236-263	337-364						
PCHA0 MYCTU	60 KD CHAPERONIN	MYCOBACTERIUM TUBERCULOSIS & BOVIS	125-152	337-364							
PCHA0 PSEAE	60 KD CHAPERONIN	PSEUDOMONAS AERUGINOSA	339-366								
PCHA0 RHILV	60 KD CHAPERONIN	RHIZOBIUM LEGUMINOSARUM	117-163	322-370	425-466						
PCHA0 RUCTS	60 KD CHAPERONIN	RICKETTSIA TSUTSUGAMUSHI	103-130	291-336	360-394						
PCHA0 SYN7	60 KD CHAPERONIN	SYNECHOCOCCUS SP	308-335	337-380							
PCHA0 SYN7	60 KD CHAPERONIN	SYNECHOCOCCUS SP	338-365	455-489							
PCHA0 THEP3	60 KD CHAPERONIN	THERMOPHILIC BACTERIUM PS-3	337-364								
PCHE2 STRAL	60 KD CHAPERONIN 2	STREPTOMYCES ALBUS G	116-148	337-364							
PCHE2 VIBHA	N-X-DIACETYLCHITINBIASE PRECURSOR	VIBRIO HARVEYI	21-48	772-799							
PCHEA BACSU	CHEMOTAXIS PROTEIN CHEA	BACILLUS SUBTILIS	373-400	590-617							
PCHEA ECOLI	CHEMOTAXIS PROTEIN CHEA	ESCHERICHIA COLI	256-286								
PCHEA SALTY	CHEMOTAXIS PROTEIN CHEA	SALMONELLA TYPHIMURIUM	162-197								
PCHEA BACSU	CHEMOTAXIS PROTEIN METHYL-TRANSFERASE	BACILLUS SUBTILIS	124-151								
PCHEW ECOLI	PURINE-BINDING CHEMOTAXIS PROTEIN	ESCHERICHIA COLI	68-115								
PCHEW SALTY	PURINE-BINDING CHEMOTAXIS PROTEIN	SALMONELLA TYPHIMURIUM	88-115								
PCHEY ECOLI	CHEMOTAXIS PROTEIN CHEY	ESCHERICHIA COLI	22-49								
PCHEY SALTY	CHEMOTAXIS PROTEIN CHEY	SALMONELLA TYPHIMURIUM	22-49								
PCHI1 BACCI	CHITINASE A1 PRECURSOR	BACILLUS CIRCULANS	491-518	566-593							
PCHA1 ALTSC	CHITINASE A PRECURSOR	ALTERNOMONAS SP	345-372								
PCHA1 SERMA	CHITINASE A PRECURSOR	SERRA TIA MARCESCENS	346-373								

PCGENE	10711784	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILE NAME	PROTEIN	ORGANISM									
PCYMO ACISF	CYCLOHEXANONE MONOOXYGENASE	ACINETOBACTER SP	439-473								
PCVNT SYN77	CARBONIC ANHYDRASE	SYNECHOCOCCUS SP	170-200								
PCVNX ECOLI	CYNX PROTEIN	ESCHERICHIA COLI	51-80								
PCYOB ECOLI	CYTOCHROME O UBIQUINOL OXIDASE SUBUNIT I	ESCHERICHIA COLI	31-58								
PCYTH SYN77	PEPTIDYL-PROLYL CIS-TRANS ISOMERASE	SYNECHOCOCCUS SP	107-141								
PCYSA ECOLI	SULFATE PERMEASE A PROTEIN	ESCHERICHIA COLI	164-191								
PCYSB ECOLI	CYS REGULON TRANSCRIPTIONAL ACTIVATOR	ESCHERICHIA COBI	3-30								
PCYSB SALTY	CYS REGULON TRANSCRIPTIONAL ACTIVATOR	SALMONELLA TYPHIMURIUM	3-30								
PCYSE ECOLI	SERINE ACETYLTRANSFERASE	ESCHERICHIA COLI	164-191								
PCYSE SALTY	SERINE ACETYLTRANSFERASE	SALMONELLA TYPHIMURIUM	164-191								
PCYSG ECOLI	SIROHEM SYNTHASE	ESCHERICHIA COLI	405-432								
PCYSG SALTY	SIROHEM SYNTHASE	SALMONELLA TYPHIMURIUM	405-432								
PCYSN ECOLI	SULFATE ADENYLATE TRANSFERASE SUBUNIT I	ESCHERICHIA COLI	64-91								
PCYSW ECOLI	SULFATE PERMEASE W PROTEIN	ESCHERICHIA COLI	201-238								
PCYSW SYN77	SULFATE PERMEASE W PROTEIN	SYNECHOCOCCUS SP	211-238								
PCZCB ALCEU	CATION EFFLUX SYSTEM PROTEIN CZCB	ALCALIGENES EUTROPHUS	241-268	283-320	364-391						
PCZCD ALCEU	CATION EFFLUX SYSTEM PROTEIN CZCD	ALCALIGENES EUTROPHUS	139-169								
PDACB BACSU	PENICILLIN-BINDING PROTEIN 5' PRECURSOR	BACILLUS SUBTILIS	80-107								
PDADA ECOLI	D-AMINO ACID DEHYDROGENASE	ESCHERICHIA COLI	127-134								
PDAGA ALTHA	NA(+)-LINKED D-ALANINE GLYCINE PERMEASE	ALTERNONAS HALOPLANKTIS	332-373								
PDAMX ECOLI	DAMX PROTEIN	ESCHERICHIA COLI	68-95	349-380							
PDAPA ECOLI	DEHYDRODIPICOLINATE SYNTHASE	ESCHERICHIA COLI	27-34	157-184							
PDATI BACSU	DNA-PROTEIN-CYSTEINE METHYLTRANSFERASE	BACILLUS SUBTILIS	13-47								
PDBH ECOLI	DNA-BINDING PROTEIN HU-ALPHA	ESCHERICHIA COLI	12-39								
PDBH CLOPA	DNA-BINDING PROTEIN HU	CLOSTRIDIUM PASTEURIANUM	12-53								
PDCAH ECOLI	DECARBOXYLASE PROENZYM	ESCHERICHIA COLI	146-173								
PDCCA CORGL	DIAMINOPNIMATE DECARBOXYLASE	CORYNEBACTERIUM GLUTIMICUM	134-161								
PDCCA PSEAE	DIAMINOPNIMATE DECARBOXYLASE	PSEUDOMONAS AERUGINOSA	57-84								
PDCEB ECOLI	GLUTAMATE DECARBOXYLASE BETA	ESCHERICHIA COLI	4-31								
PDCHS ENTAE	HISTIDINE DECARBOXYLASE	ENTEROBACTER AEROGES	111-138								
PDCHS KLEPL	HISTIDINE DECARBOXYLASE	KLEBSIELLA PLANTICOLA	111-138								
PDCHS MORMO	HISTIDINE DECARBOXYLASE	MORGANELLA MORGANII	111-138								
PDCHD BACSU	DIPETIDE TRANSPORT PROTEIN DCIAD	BACILLUS SUBTILIS	188-222								
PDCLY HAFAL	LYSINE DECARBOXYLASE	HAFNIA ALVEI	305-332								
PDCCA KLEPN	OXALOACETATE DECARBOXYLASE ALPHA CHAIN	KLEBSIELLA PNEUMONIAE	261-288	342-369							
PDCCA SALTY	OXALOACETATE DECARBOXYLASE ALPHA CHAIN	SALMONELLA TYPHIMURIUM	261-288	342-369							
PDCCB SALTY	OXALOACETATE DECARBOXYLASE BETA CHAIN	SALMONELLA TYPHIMURIUM	299-326								
PDCTB RHILE	TRANSPORT SENSOR PROTEIN DCTB	RHIZOBIUM LEGUMINOSARUM	377-411								
PDCTB RHIME	TRANSPORT SENSOR PROTEIN DCTB	RHIZOBIUM MELLLOTI	511-538								
PDEAD ECOLI	ATP-DEPENDENT RNA HELICASE DEAD	ESCHERICHIA COLI	268-295	518-545							
PDEAD KLEPN	ATP-DEPENDENT RNA HELICASE DEAD	KLEBSIELLA PNEUMONIAE	267-294	519-546							
PDEDA ECOLI	DEDA PROTEIN	ESCHERICHIA COLI	106-133								
PDEGS BACSU	SENSOR PROTEIN DEGS	BACILLUS SUBTILIS	31-70	75-159	292-327						
PDEH2 MORSP	HALOACETATE DEHALOGENASE H-2	MORAXELLA SP	114-141								
PDEOC ECOLI	DEOXYRIBOSE-PHOSPHATE ALDOLASE	ESCHERICHIA COLI	134-161								
PDHAL PSEOL	ALDEHYDE DEHYDROGENASE	PSEUDOMONAS OLEOVORANS	6-33								
PDHAS BACSU	ASPARTATE-SEMIALDEHYDE DEHYDROGENASE	BACILLUS SUBTILIS	150-184								
PDHAS CORGL	ASPARTATE-SEMIALDEHYDE DEHYDROGENASE	CORYNEBACTERIUM GLUTIMICUM	43-70	312-339							
PDHAS ECOLI	ASPARTATE-SEMIALDEHYDE DEHYDROGENASE	ESCHERICHIA COLI	229-236								
PDHAS VBCH	ASPARTATE-SEMIALDEHYDE DEHYDROGENASE	VIBRIO CHOLERAE	309-336								
PDHA BACHS	ALANINE DEHYDROGENASE	BACILLUS SPHAERICUS	149-176								
PDHA BACST	ALANINE DEHYDROGENASE	BACILLUS STEAROTHERMOPHILUS	94-121								
PDHE2 CLODI	NAD-SPECIFIC GLUTAMATE DEHYDROGENASE	CLOSTRIDIUM DIFFICILE	116-143								
PDHE2 PEPAS	D-SPECIFIC GLUTAMATE DEHYDROGENASE	PEPTOSTREPTOCOCCUS ASACCHAROLYTICUS	247-274	345-380							
PDHE3 SULSO	GLUTAMATE DEHYDROGENASE	SULFOLOBUS SOLFATARICUS	2-36								
PDHEA CORGL	NADP-SPECIFIC GLUTAMATE DEHYDROGENASE	CORYNEBACTERIUM GLUTIMICUM	188-215	229-256							
PDHGA ACICA	GLUCOSE DEHYDROGENASE-A	ACINETOBACTER CALCOACETICUS	10-59	190-217							

PCGENE	10711784	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	ORGANISM									
PDHGB_BACME	GLUCOSE 1-DEHYDROGENASE B	BACILLUS MEGATERIUM	27-57								
PDHGB_ECOLI	GLUCOSE DEHYDROGENASE	ESCHERICHIA COLI	436-463								
PDHK1_STRYN	KETOACYL REDUCTASE I	STREPTOMYCES VIOLACEORUBER	168-195								
PDHLE_BAGST	LEUCINE DEHYDROGENASE	BACILLUS STEAROTHERMOPHILUS	192-219								
PDHLO_AGR74	D-LYSOPINE DEHYDROGENASE	AGROBACTERIUM TUMEFACIENS	317-344								
PDHMI_METEX	METHANOL DEHYDROGENASE SUBUNIT 1 PREC	METHYLOBACTERIUM EXTORQUENS	433-187	190-224							
PDHMI_METOR	METHANOL DEHYDROGENASE SUBUNIT 1 PREC	METHYLOBACTERIUM ORGANOPHILUM	153-187	190-224							
PDHMI_PARDE	METHANOL DEHYDROGENASE SUBUNIT 1 PREC	PARACOCCLUS DENITRIFICANS	195-222								
PDHNA_BACSP	NADH DEHYDROGENASE	BACILLUS SP	284-314								
PDHNA_ECOLI	NADH DEHYDROGENASE	ESCHERICHIA COLI	180-214								
PDHOM_BACSU	HOMOSERINE DEHYDROGENASE	BACILLUS SUBTILIS	73-107	406-433							
PDHOM_CORGL	HOMOSERINE DEHYDROGENASE	CORYNEBACTERIUM GLUTAMICUM	105-132								
PDHPH_BACSH	PHENYLALANINE DEHYDROGENASE	BACILLUS SPHAERICUS	212-239								
PDHSA_ECOLI	SUCC DEHYDROGENASE FLAVOPROTEIN SUBUNIT	ESCHERICHIA COLI	482-512								
PDHSS_ANACY	SOLUBLE HYDROGENASE 42 KD SUBUNIT	ANABAENA CYLINDRICA	86-113	130-168							
PDHSS_SYNP1	SOLUBLE HYDROGENASE SMALL SUBUNIT	SYNECHOCOCCUS SP	133-160								
PDHTM_METME	TRIMETHYLAMINE DEHYDROGENASE	METHYLOTROPHUS METHYLOPHILUS	439-466								
PDHIO_ECOLI	PROBABLE ATP-DEPENDENT HELICASE DING	ESCHERICHIA COLI	584-611								
PDHVB_BACSU	DIVISION INITIATION PROTEIN	BACILLUS SUBTILIS	54-82	114-141							
PDLDI_PSEPU	DIHYDROLIPOAMIDE DEHYDROGENASE	PSEUDOMONAS PUTIDA	93-120								
PDLDH_AZOV1	LIPOAMIDE DEHYDROGENASE COMP (E1)	AZOTOBACTER VINELANDII	18-45	224-276							
PDLDH_BAGST	LIPOAMIDE DEHYDROGENASE COMP (E1)	BACILLUS STEAROTHERMOPHILUS	82-124								
PDLDH_BAGSU	LIPOAMIDE DEHYDROGENASE COMP (E1)	BACILLUS SUBTILIS	82-109								
PDLDH_ECOLI	DIHYDROLIPOAMIDE DEHYDROGENASE	ESCHERICHIA COLI	108-135								
PDLDH_PSEFL	DIHYDROLIPOAMIDE DEHYDROGENASE	PSEUDOMONAS FLUORESCENS	124-151	223-275							
PDMPN_PSEPU	PHENOL HYDROXYLASE P1 PROTEIN	PSEUDOMONAS PUTIDA	63-90								
PDNA1_BAGSU	DNAAK PROTEIN	BACILLUS SUBTILIS	497-524	548-581							
PDNA2_BAGSU	DNAAK PROTEIN	BACILLUS SUBTILIS	456-483								
PDNAA_BAGSU	DNAAK PROTEIN	BACILLUS SUBTILIS	316-380								
PDNAA_BORBU	DNAAK PROTEIN	BORRELIA BURGDORFERI	182-216	248-275	341-387	436-463					
PDNAA_BUCAP	DNAAK PROTEIN	BUCHNERA APHIDICOLA	71-100	111-138	353-380						
PDNAA_ECOLI	DNAAK PROTEIN	ESCHERICHIA COLI	366-400								
PDNAA_MICLU	DNAAK PROTEIN	MICROCOCCUS LUTEUS	385-415								
PDNAA_MYCCA	DNAAK PROTEIN	MYCOPLASMA CAPRICOLUM	8-56	75-112	274-310	330-369					
PDNAA_PROMI	DNAAK PROTEIN	PROTEUS MIRABILIS	365-399								
PDNAA_PSEPU	DNAAK PROTEIN	PSEUDOMONAS PUTIDA	398-439								
PDNAA_SFICI	DNAAK PROTEIN	SPIROPLASMA CITRI	45-72	76-110	145-180						
PDNAB_CHLTR	DNAB-LIKE PROTEIN	CHLAMYDIA TRACHOMATIS	312-353								
PDNAB_ECOLI	DNAB PROTEIN	ESCHERICHIA COLI	82-109								
PDNAB_SALTY	DNAB PROTEIN	SALMONELLA TYPHIMURIUM	82-109								
PDNAC_ECOLI	DNAC PROTEIN	ESCHERICHIA COLI	146-190								
PDNAC_BAGME	DNAC PROTEIN	BACILLUS MEGATERIUM	497-524	548-581							
PDNAC_BORBU	DNAC PROTEIN	BORRELIA BURGDORFERI	512-594								
PDNAC_BRUOV	DNAC PROTEIN	BRUCELLA OVIS	248-275	512-546							
PDNAC_CAUICR	DNAC PROTEIN	CAULOBACTER CRESCENTUS	561-588								
PDNAC_CLOAB	DNAC PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	499-526								
PDNAC_CLOPE	DNAC PROTEIN	CLOSTRIDIUM PERFRINGENS	496-527								
PDNAC_METHA	DNAC PROTEIN	METHANOSARCOMA MAZEI	523-550								
PDNAC_MYCTU	DNAC PROTEIN	MYCOBACTERIUM TUBERCULOSIS	502-529								
PDNAC_STRCO	DNAC PROTEIN	STREPTOMYCES COELICOLOR	45-72	533-572							
PDNIR_ECOLI	REGULATORY PROTEIN DNIR	ESCHERICHIA COLI	114-141								
PDNLI_ZYMMO	DNA LIGASE	ZYMONONAS MOBILIS	658-712								
PDNRJ_STRPE	TRANSDUCTION PROTEIN DNJR	STREPTOMYCES PEUCETIUS	24-51								
PDPOK_SULSO	PROBABLE SIGNAL RECOGNITION PARTICLE PROTEIN	SULFOLOBUS SOLFATARICUS	104-172								
PDPPA_BAGSU	DNA POLYMERASE III, ALPHA CHAIN	BACILLUS SUBTILIS	58-85	417-444	1382-1416						
PDPPA_ECOLI	DNA POLYMERASE III, ALPHA CHAIN	ESCHERICHIA COLI	77-104								
PDPPA_SACER	DNA POLYMERASE III, ALPHA CHAIN	SACCHAROPOLYSPORA ERYTHRAEA	230-257								

PCGENE	1071784	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	ORGANISM									
PDPA_SALTY	DNA POLYMERASE III, ALPHA CHAIN	SALMONELLA TYPHIMURUM	77-104								
PDPA_BACSU	DNA POLYMERASE III, BETA CHAIN	BACILLUS SUBTILIS	212-239								
PDPA_BORBU	DNA POLYMERASE III, BETA CHAIN	BORRELIA BURGDORFERI	266-113								
PDPA_BUCAP	DNA POLYMERASE III, BETA CHAIN	BUCHNERA APHIDICOLA	31-62	308-359							
PDPA_MICLU	DNA POLYMERASE III, BETA CHAIN	MICROCOCCLUS LUTEUS	191-218								
PDPA_MYCCA	DNA POLYMERASE III, BETA CHAIN	MYCOPLASMA CAPRICOLUM	36-70								
PDPA_PSEPU	DNA POLYMERASE III, BETA CHAIN	PSEUDOMONAS PUTIDA	30-60								
PDPA_SPICI	DNA POLYMERASE III, BETA CHAIN	SPIROPLASMA CITRI	78-112	129-177	273-310						
PDPA_BACSU	DNA POLYMERASE III SUBUNITS GAMMA AND TAU	BACILLUS SUBTILIS	231-272								
PDPA_ECOLI	DNA PRIMAASE TRAC-2	ESCHERICHIA COLI	691-743								
PDPA_ECOLI	DNA PRIMAASE TRAC-4	ESCHERICHIA COLI	401-448								
PDPA_STRPN	DPND PROTEIN	STREPTOCOCCUS PNEUMONIAE	79-120								
PDPA_BACCA	DNA POLYMERASE I	BACILLUS CALDOTTENAX	208-235								
PDPA_STRPN	DNA POLYMERASE I	STREPTOCOCCUS PNEUMONIAE	198-225	398-425	571-598	645-672					
PDPA_THEAQ	DNA POLYMERASE	THERMUS AQUATICUS	196-223	602-629							
PDPA_THELI	DNA POLYMERASE	THERMUS AQUATICUS	597-628								
PDPA_ECOLI	DNA POLYMERASE II	ESCHERICHIA COLI	569-596								
PDPA_PYRFU	DNA POLYMERASE	PYROCOCCLUS FURIOSUS	746-773								
PDPA_SULSO	DNA POLYMERASE	SULFOLOBUS SOLFATARICUS	379-406	436-463	625-659	747-774					
PDPA_THELI	DNA POLYMERASE	THERMOCOCCLUS LITORALIS	332-370	551-589	892-926	1004-1031	1153-1194				
PDPA_LACLA	DIPETIDYL PEPTIDASE IV	LACTOCOCCUS LACTIS	716-753								
PDPA_LACLA	DIPETIDYL PEPTIDASE IV	LACTOCOCCUS LACTIS	716-753								
PDPA_ECOLI	DNA PROTECTION DURING STARVATION PROTEIN	ESCHERICHIA COLI	4-45								
PDPA_STRPN	DEOXYRIBONUCLEASE PRECURSOR	STREPTOCOCCUS EQUITIMILIS	33-60	291-318							
PDPA_STRPN	DAUNORUBICIN RESISTANCE ATP-BINDING PROTEIN	STREPTOMYCES PEUCETIUS	286-313								
PDPA_STAAU	DIHYDROFOLATE REDUCTASE TYPE I	STAPHYLOCOCCUS AUREUS	62-89								
PDPA_BACCI	GLUCAN ENDO-1,3-BETA-GLUCOSIDASE A1 PREC	BACILLUS CIRCULANS	134-161	305-339	424-451						
PDPA_ECOLI	ATTACHING AND EFFACING PROTEIN	ESCHERICHIA COLI	66-100	138-185	525-552	691-725	802-836	871-905			
PDPA_ECOLI	EBG OPERON REPRESSOR PROTEIN	ESCHERICHIA COLI	151-178								
PDPA_STAAU	ETHANOL BROMIDE RESISTANCE PROTEIN	STAPHYLOCOCCUS AUREUS	68-98								
PDPA_RHOCA	ENOL-COA HYDROLYASE HOMOLOG	RHODOBACTER CAPSULATUS	222-249								
PDPA_ECOLI	CHAPERONE PROTEIN ECPD PRECURSOR	ESCHERICHIA COLI	20-47								
PDPA_ZYMMO	PHOSPHOGLUCONATE DEHYDRATASE	ZYMONONAS MOBILIS	12-39								
PDPA_STAAU	EPIDERMAL CELL DIFF PRECURSOR	STAPHYLOCOCCUS AUREUS	427-461	119-146							
PDPA_HALHA	ELONGATION FACTOR 2	DESULFUROCOCCUS MOBILIS	186-213								
PDPA_METVA	ELONGATION FACTOR 2	METHANOCOCCLUS VANNIELII	409-436								
PDPA_SULAC	ELONGATION FACTOR 2	SULFOLOBUS ACIDOCALDARIUS	36-63	145-180							
PDPA_THEAC	ELONGATION FACTOR 2	THERMOPLASMA ACIDOPHILUM	13-40	49-76	220-247						
PDPA_ANANI	ELONGATION FACTOR G	ANACYSTIS NIDULANS	332-359								
PDPA_ECOLI	ELONGATION FACTOR G	ESCHERICHIA COLI	234-261								
PDPA_MYCLE	ELONGATION FACTOR G	MYCOBACTERIUM LEPRAE	211-259	330-357							
PDPA_SALTY	ELONGATION FACTOR G	SALMONELLA TYPHIMURUM	234-261								
PDPA_SPLPL	ELONGATION FACTOR G	SPIRULINA PLATENSIS	334-374	481-511							
PDPA_STNY3	ELONGATION FACTOR G	SYNECHOCYSTIS SP	14-41								
PDPA_STRRA	ELONGATION FACTOR TU1	STREPTOMYCES RAMOICISSINUS	221-258								
PDPA_STRRA	ELONGATION FACTOR TU2	STREPTOMYCES RAMOICISSINUS	221-258								
PDPA_STRRA	ELONGATION FACTOR TU3	STREPTOMYCES RAMOICISSINUS	228-255								
PDPA_ECOLI	ELONGATION FACTOR EF-TS	ESCHERICHIA COLI	101-135								
PDPA_SPICI	ELONGATION FACTOR EF-TS	SPIROPLASMA CITRI	27-54	134-161							
PDPA_BACGR	ELONGATION FACTOR TU	BACTEROIDES FRAGILIS	18-43	229-256							
PDPA_BACSU	ELONGATION FACTOR TU	BACILLUS SUBTILIS	11-45	230-257							
PDPA_BURCE	ELONGATION FACTOR TU	BURKHOLDERIA CEPACIA	26-53								
PDPA_CHLTR	ELONGATION FACTOR TU	CHLAMYDIA TRACHOMATIS	218-245								
PDPA_DEISP	ELONGATION FACTOR TU	DEINONEMA SP	230-257								
PDPA_FLESI	ELONGATION FACTOR TU	FLEXISTIPES SINUSARABICI	221-248								
PDPA_HALMA	ELONGATION FACTOR TU	HALOARCTULA MARISMORTUI	4-31								

PCGENE	10711784	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILENAME	PROTEIN	ORGANISM									
PEPTU_MICLU	ELONGATION FACTOR TU	MICROCOCOCCUS LUTEUS	221-248								
PEPTU_MYCHO	ELONGATION FACTOR TU	MYCOPLASMA HOMINIS	222-249								
PEPTU_MYCLE	ELONGATION FACTOR TU	MYCOBACTERIUM THERMACE	220-247								
PEPTU_MYCTU	ELONGATION FACTOR TU	MYCOBACTERIUM TUBERCULOSIS	220-247								
PEPTU_SHEPU	ELONGATION FACTOR TU	SHEWANELLA PUTREFACTENS	26-51								
PEPTU_STORU	ELONGATION FACTOR TU	STREPTOCOCCUS ORALIS	232-239								
PELAS_PSEAE	PSEUDOLYSIN PRECURSOR	PSEUDOMONAS AERUGINOSA	141-168								
PELT1_ECOLI	T-LABILE ENTEROTOXIN A CHAIN PRECURSOR	ESCHERICHIA COLI	78-105								
PELT2_ECOLI	T-LABILE ENTEROTOXIN A CHAIN PRECURSOR	ESCHERICHIA COLI	79-106								
PELT3_CLOPE	T-LABILE ENTEROTOXIN B CHAIN PRECURSOR	CLOSTRIDIUM PERFRINGENS	228-269								
PENDT_ECOLI	ENTEROBACTIN SYNTHETASE COMPONENT D	ESCHERICHIA COLI	154-188								
PENVN_SALTU	ENVN PROTEIN	SALMONELLA TYPHIMURIUM	34-61								
PEPIP_STAEP	117 KD MEMBRANE ASSOCIATED PROTEIN	STAPHYLOCOCCUS EPIDERMIDIS	51-80	125-229	290-325	387-421	857-889				
PEPIC_STAEP	EPIDERMIN BIOSYNTHESIS PROTEIN EPIC	STAPHYLOCOCCUS EPIDERMIDIS	411-447								
PEPIP_STAEP	SERINE PROTEASE EPIC PRECURSOR	STAPHYLOCOCCUS EPIDERMIDIS	7-58	297-324							
PEPIY_STAEP	HYPOTHETICAL 16.7 KD PROTEIN IN EPIC S REGION	STAPHYLOCOCCUS EPIDERMIDIS	70-101								
PEPIZ_STAEP	HYPOTHETICAL PROTEIN IN EPIC S REGION	STAPHYLOCOCCUS EPIDERMIDIS	42-100								
PERA_ECOLI	GTP-BINDING ERA PROTEIN	ESCHERICHIA COLI	18-45								
PERBS_SACER	SENSORY TRANSDUCTION PROTEIN ERYCI	SACCHAROPOLYSPORA ERYTHIRAEAE	309-243								
PEREA_ECOLI	ERYTHROMYCIN ESTERASE TYPE I	ESCHERICHIA COLI	37-64	143-170							
PERY1_SACER	ERYTHROMYCIN SYNTHASE, MODULES 5 AND 6	SACCHAROPOLYSPORA ERYTHIRAEAE	9-36	967-994	1117-1144						
PESTA_STRSC	ESTERASE PRECURSOR	STREPTOMYCES SCABIES	128-155								
PESTE_PEFEL	ARYLESTERASE	PSEUDOMONAS FLUORESCENS	162-189								
PETCI_STAAN	ENTEROTOXIN TYPE C-1 PRECURSOR	STAPHYLOCOCCUS AUREUS	76-117	155-206							
PETC2_STAAN	ENTEROTOXIN TYPE C-2 PRECURSOR	STAPHYLOCOCCUS AUREUS	76-117	155-206							
PETC3_STAAN	ENTEROTOXIN TYPE C-3 PRECURSOR	STAPHYLOCOCCUS AUREUS	76-117	155-206							
PETK4_STAAN	ENTEROTOXIN TYPE A PRECURSOR	STAPHYLOCOCCUS AUREUS	26-69	165-192							
PETXB_CLOPE	EPSILON-TOXIN, TYPE B PRECURSOR	CLOSTRIDIUM PERFRINGENS	209-236								
PETXB_STAAN	ENTEROTOXIN TYPE B PRECURSOR	STAPHYLOCOCCUS AUREUS	64-101	173-207							
PETXD_STAAN	ENTEROTOXIN TYPE D PRECURSOR	STAPHYLOCOCCUS AUREUS	153-200								
PETXE_STAAN	ENTEROTOXIN TYPE E PRECURSOR	STAPHYLOCOCCUS AUREUS	26-69	88-115							
PEUTC_SALTU	ETHANOLAMINE AMMONIA-LYASE LIGHT CHAIN	SALMONELLA TYPHIMURIUM	116-150								
PEVGA_ECOLI	PUTATIVE TRANSCRIPTION REG EVGA	ESCHERICHIA COLI	62-89								
PEVGS_ECOLI	PUTATIVE SENSOR PROTEIN EVGS	ESCHERICHIA COLI	45-79	249-276	431-458	526-553	829-856				
PEX3B_ECOLI	EXODEOXYRIBONUCLEASE V	ESCHERICHIA COLI	226-253								
PEX3B_ECOLI	BIOPOLYMER TRANSPORT EXB8 PROTEIN	ESCHERICHIA COLI	80-107								
PEX3A_RHME	SUCCINOGLYCAN BIOSYNTHESIS PROTEIN EX3A	RHIZOBIUM MELILOTI	180-207								
PEX3A_STRPN	EXODEOXYRIBONUCLEASE	STREPTOCOCCUS PNEUMONIAE	218-254								
PEX3F_RHME	EXOF PROTEIN	RHIZOBIUM MELILOTI	236-270	327-361							
PEX3H_RHME	SUCCINOGLYCAN BIOSYNTHESIS PROTEIN EX3H	RHIZOBIUM MELILOTI	252-279								
PEX3P_RHME	SUCCINOGLYCAN BIOSYNTHESIS PROTEIN EX3P	RHIZOBIUM MELILOTI	211-242	272-299	350-391						
PFAD8_ECOLI	FATTY OXIDATION COMPLEX ALPHA SUBUNIT	ESCHERICHIA COLI	36-63	177-204							
PFADL_ECOLI	FATTY ACID TRANSPORT PROTEIN PRECURSOR	ESCHERICHIA COLI	220-247								
PFAD3_ECOLI	OUTER MEMBRANE PROTEIN FAED PRECURSOR	ESCHERICHIA COLI	223-257	421-453	507-541						
PFAP8_ECOLI	K88 MINOR FIMBRIAL SUBUNIT PRECURSOR	ESCHERICHIA COLI	18-48								
PFAND_ECOLI	FAND PROTEIN PRECURSOR	ESCHERICHIA COLI	160-194	386-423	596-623	730-757					
PFANE_ECOLI	CHAPERONE PROTEIN FANE PRECURSOR	ESCHERICHIA COLI	22-58								
PFANG_ECOLI	FANG PROTEIN PRECURSOR	ESCHERICHIA COLI	104-131								
PFANH_ECOLI	FANH PROTEIN PRECURSOR	ESCHERICHIA COLI	83-141								
PFAP8_PSEER	FATTY OXIDATION COMPLEX ALPHA SUBUNIT	PSEUDOMONAS FRAGI	8-42	295-322							
PFDDH_WOLSU	FDHD PROTEIN	WOLINELLA SUCCINOGENES	64-98								
PTDHF_ECOLI	FORMATE DEHYDROGENASE	ESCHERICHIA COLI	613-640								
PTDH_PSEER	FORMATE DEHYDROGENASE	PSEUDOMONAS SP	49-76	366-393							
PTDNG_ECOLI	FORMATE DEHYDROGENASE	ESCHERICHIA COLI	288-315	323-350	696-730						
PTCEA_ECOLI	TRANSPORT PROTEIN FECA PRECURSOR	ESCHERICHIA COLI	531-561								
PTFEC_ECOLI	TRANSPORT PROTEIN I, CYTOSOLIC	ESCHERICHIA COLI	210-237								
PFECI_ECOLI	FEIC PROTEIN	ESCHERICHIA COLI	131-158								

PCGENE	1071284	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PFEMB_STAAU	POSSIBLE PROTEIN FEMB	STAPHYLOCOCCUS AUREUS	22-36								
PFENR_SYNP2	FERRIDOXIN-NADP REDUCTASE	SYNECHOCOCCUS SP	4-31								
PFERC_ECOLI	FERRIC ENTEROBACTIN TRANSPORT PROTEIN FEPC	ESCHERICHIA COLI	176-203								
PFEPF_ECOLI	FERRIC ENTEROBACTIN TRANSPORT PROTEIN FEPE	ESCHERICHIA COLI	182-234	281-308							
PFEPD_ECOLI	FERRIC ENTEROBACTIN TRANSPORT PROTEIN FEPP	ESCHERICHIA COLI	128-155								
PFERH_ANASP	FERRIDOXIN, HETEROCYST	ANABAENA SP	2-29								
PFERX_ANASP	FERRIDOXIN-LIKE PROTEIN IN NIF REGION	ANABAENA SP	67-94								
PFHAB_BORPE	FILAMENTOUS HEMAAGGLUTININ	BORDETTELLA PERTUSSIS	1128-1158	1359-1386	2063-2114	2841-2868	3051-3085	3167-3194			
PFHAC_BORPE	HAEMOLYSIN-LIKE PROTEIN FHAC PRECURSOR	BORDETTELLA PERTUSSIS	342-369								
PFHIA_ECOLI	FORMATE HYDROGENLYASE TRANSACTIVATOR	ESCHERICHIA COLI	36-63	350-384	401-428						
PFHUA_ECOLI	FERRIC CHROMO-IRON RECEPTOR PRECURSOR	ESCHERICHIA COLI	438-485								
PFHUB_ECOLI	PROTEIN FHUB PRECURSOR	ESCHERICHIA COLI	227-254								
PFHUE_ECOLI	OUTER-MEMBRANE RECEPTOR	ESCHERICHIA COLI	587-614								
PFIB_SPICI	FIBRIL PROTEIN	SPIROPLASMA CITRI	161-195	326-367							
PFIC_ECOLI	CELL FILAMENTATION PROTEIN FIC	ESCHERICHIA COLI	151-178								
PFIC_SALTY	CELL FILAMENTATION PROTEIN FIC	SALMONELLA TYPHIMURIUM	151-178								
PFIMC_BORPE	OUTER MEMBRANE PROTEIN FIMC PRECURSOR	BORDETTELLA PERTUSSIS	208-235	540-567	618-645						
PFIMC_ECOLI	CHAPERONE PROTEIN FIMC PRECURSOR	ESCHERICHIA COLI	51-78	458-485	534-561	563-590					
PFIMD_ECOLI	FIMD PROTEIN PRECURSOR	ESCHERICHIA COLI	222-253								
PFIME_ECOLI	TYPE 1 FIMBRIAE REGULATORY PROTEIN FIME	ESCHERICHIA COLI	165-192								
PFIMY_SALTY	FIMBRIAE Y PROTEIN	SALMONELLA TYPHIMURIUM	49-76								
PFIMZ_ECOLI	FIMBRIAE Z PROTEIN	ESCHERICHIA COLI	42-69	162-192	196-230						
PFIMZ_SALTY	FIMBRIAE Z PROTEIN	SALMONELLA TYPHIMURIUM	175-209								
PFINQ_ECOLI	FINQ PROTEIN	ESCHERICHIA COLI	145-172								
PFIRA_RICRI	FIRA PROTEIN	RICKETTSIA RICKETTSII	162-189								
PFIXC_AZOC	FIXC PROTEIN	AZORHIZOBIVUM CAULINODANS	179-156								
PFIXL_AZOC	SENSOR PROTEIN FIXL	AZORHIZOBIVUM CAULINODANS	247-274								
PFIXL_BRAJA	SENSOR PROTEIN FIXL	BRADYRIZOBIVUM JAPONICUM	27-54	253-280							
PFLA1_BORBU	FLAGELLAR FILAMENT 41 KD CORE PROTEIN	BORRELIA BURGDORFERI	8-35	271-298							
PFLA1_HALHA	FLAGELLIN A1 PRECURSOR	HALOBACTERIUM HALOBIVUM	63-92	157-184							
PFLA1_METVO	FLAGELLIN B1 PRECURSOR	METHANOCOCCUS VOLTAE	28-73	133-160							
PFLA2_METVO	FLAGELLIN B2 PRECURSOR	METHANOCOCCUS VOLTAE	28-66								
PFLA3_HALHA	FLAGELLIN B3 PRECURSOR	HALOBACTERIUM HALOBIVUM	36-63								
PFLA3_METVO	FLAGELLIN B3 PRECURSOR	METHANOCOCCUS VOLTAE	35-76								
PFLA4_HALHA	FLAGELLIN B4 PRECURSOR	HALOBACTERIUM HALOBIVUM	36-90	157-184							
PFLA5_HALHA	FLAGELLIN B5 PRECURSOR	HALOBACTERIUM HALOBIVUM	36-63	154-181							
PFLA6_BACSU	FLAA LOCUS 22.9 KD PROTEIN	BACILLUS SUBTILIS	73-149	155-186							
PFLAA_CAMCO	FLAGELLIN A	CAMPYLOBACTER COLI	15-42	144-191	497-535						
PFLAA_METVO	FLAGELLIN A PRECURSOR	CAMPYLOBACTER JEJUNI	220-266	310-337	506-538						
PFLAA_CAMJE	FLAGELLIN A	METHANOCOCCUS VOLTAE	28-62								
PFLAA_PSEAE	FLAGELLIN	PSEUDOMONAS AERUGINOSA	3-41	51-88	97-124						
PFLAA_RHME	FLAGELLIN	RHIZOBIVUM MELILOTI	181-219	228-265	360-391						
PFLAA_SPIAU	FLAGELLAR FILAMENT PROTEIN PRECURSOR	SPIROCHAETA AURANTIA	162-189								
PFLAA_TREHY	FLAGELLAR FILAMENT PROTEIN PRECURSOR	TREPONEMA HYDYSYNTERRIAE	55-89	219-285							
PFLAA_TREPA	FLAGELLAR FILAMENT OUTER LAYER PROTEIN	TREPONEMA PALLIDUM	243-270								
PFLAB_CAMCO	FLAGELLIN B	CAMPYLOBACTER COLI	144-191	497-535							
PFLAB_CAMJE	FLAGELLIN B	CAMPYLOBACTER JEJUNI	220-266	310-337	506-538						
PFLAB_RHME	FLAGELLIN	RHIZOBIVUM MELILOTI	86-113	177-219	228-255	360-391					
PFLAV_GLOMP	FLAVODOXIN	CLOSTRIDIUM NP	18-52								
PFLAV_CAUCK	REGULATORY PROTEIN FLAV	CAULOBACTER CRESCENTUS	291-318	551-578							
PFLA_BACSU	FLAGELLIN	BACILLUS SUBTILIS	102-129	228-255							
PFLGO_BACSU	FLAGELLAR BASAL-BODY ROD PROTEIN FLGG	BACILLUS SUBTILIS	62-89								
PFLCK_SALTY	FLAGELLAR HOOK-ASSOCIATED PROTEIN 1	SALMONELLA TYPHIMURIUM	12-50	331-360	456-540						
PFLGL_ECOLI	FLAGELLAR HOOK-ASSOCIATED PROTEIN 3	ESCHERICHIA COLI	61-105	229-266							
PFLGL_SALTY	FLAGELLAR HOOK-ASSOCIATED PROTEIN 3	SALMONELLA TYPHIMURIUM	61-105	229-266							
PFLHD_ECOLI	FLAGELLAR TRANSCRIPTIONAL ACTIVATOR FLHD	ESCHERICHIA COLI	6-33								
PFLIA_PSEAE	FLAGELLAR OPERON RNA POL SIGMA FACTOR	PSEUDOMONAS AERUGINOSA	198-232								

PCGENE	1071784	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILE NAME	PROTEIN	ORGANISM									
PFIC_ECOLI	FLAGELLIN	ESCHERICHIA COLI	3-41	186-213	293-329	431-466					
PFIC_SALCH	FLAGELLIN	SALMONELLA CHOLERAE-SUIS	5-41	54-125	136-198						
PFIC_SALMU	FLAGELLIN	SALMONELLA MUECHEN	5-41	54-88	136-177	232-259	272-299	376-403			
PFIC_SALPA	FLAGELLIN	SALMONELLA PARATYPH-A	5-41	54-125	136-184						
PFIC_SALRU	FLAGELLIN	SALMONELLA RUBISLAW	5-41	54-125	136-196						
PFIC_SALTY	FLAGELLIN	SALMONELLA TYPHIMURIUM	5-41	54-125	136-200						
PFIC_SERMA	FLAGELLIN	SERRATIA MARCESCENS	15-42	55-89	103-130	137-164	275-321				
PFID_ECOLI	FLAGELLAR HOOK-ASSOCIATED PROTEIN 2	ESCHERICHIA COLI	32-66	106-133	160-187	216-298	386-445				
PFID_SALTY	FLAGELLAR HOOK-ASSOCIATED PROTEIN 2	SALMONELLA TYPHIMURIUM	32-66	106-133	255-299	407-438					
PFIE_BACSU	FLAG HOOK-BASAL BODY PROTEIN FLIE	BACILLUS SUBTILIS	8-35								
PFIF_BACSU	FLAGELLAR M-RING PROTEIN	BACILLUS SUBTILIS	327-361	391-418							
PFIF_CAUCR	FLAGELLAR M-RING PROTEIN	CAULOBACTER CRESCENTUS	24-51	297-324	361-388						
PFIF_SALTY	FLAGELLAR M-RING PROTEIN	SALMONELLA TYPHIMURIUM	484-529								
PFIF_BACSU	FLAGELLAR SWITCH PROTEIN FLIG	BACILLUS SUBTILIS	35-62								
PFIF_ECOLI	FLAGELLAR SWITCH PROTEIN FLIG	ESCHERICHIA COLI	44-71								
PFIL_BACSU	PROBABLE FLII PROTEIN	BACILLUS SUBTILIS	19-46	105-132							
PFIL_SALTY	FLAGELLAR FLII PROTEIN	BACILLUS SUBTILIS	7-37								
PFIL_BACSU	FLAGELLAR FLII PROTEIN	SALMONELLA TYPHIMURIUM	75-118								
PFIL_SALTY	FLAGELLAR FLII PROTEIN	BACILLUS SUBTILIS	77-104	117-144							
PFIL_BACSU	PROBABLE FLIK PROTEIN	BACILLUS SUBTILIS	30-71	78-105	109-136						
PFIL_ECOLI	FLII PROTEIN	ESCHERICHIA COLI	105-132								
PFIL_SALTY	FLII PROTEIN	SALMONELLA TYPHIMURIUM	103-133								
PFIL_BACSU	FLIM PROTEIN	BACILLUS SUBTILIS	148-175								
PFIL_ECOLI	FLIM PROTEIN	ESCHERICHIA COLI	251-278								
PFIL_CAUCR	FLAGELLAR MOTOR SWITCH PROTEIN	CAULOBACTER CRESCENTUS	56-83								
PFIL_ECOLI	FLAGELLAR PROTEIN FLIT	ESCHERICHIA COLI	59-86								
PFIL_SALTY	FLAGELLAR PROTEIN FLIT	SALMONELLA TYPHIMURIUM	9-46	67-106							
PFM12_PSEAE	FIMBRIAL PROTEIN PRECURSOR	PSEUDOMONAS AERUGINOSA	30-67	80-114							
PFM1A_ECOLI	TYPE-1 FIMBRIAL PROTEIN, A CHAIN PRECURSOR	ESCHERICHIA COLI	5-32								
PFM1A_ECOLI	TYPE-1 FIMBRIAL PROTEIN, C CHAIN PRECURSOR	ESCHERICHIA COLI	11-38								
PFM1A_ECOLI	FIMBRIAL SUBUNIT TYPE 1 PRECURSOR	ACTINOMYCES VISCOUSUS	248-282	352-379	417-444						
PFM98_ECOLI	FIMBRIAL PROTEIN 987P PRECURSOR	ESCHERICHIA COLI	114-141								
PFMA0_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	110-137								
PFMA1_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	107-134								
PFMA2_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	107-134								
PFMA7_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	110-137								
PFMAA_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	123-150								
PFMAF_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	107-141								
PFMAH_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	95-122								
PFMAI_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	111-145								
PFMAJ_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	96-123								
PFMCD_PSEAE	FIMBRIAL PROTEIN PRECURSOR	PSEUDOMONAS AERUGINOSA	70-97								
PFMD0_BACNO	POSSIBLE FIMBRIAL ASSEMBLY PROTEIN FIMD	BACTEROIDES NODOSUS	106-144	355-382							
PFMDH_BACNO	POSSIBLE FIMBRIAL ASSEMBLY PROTEIN FIMD	BACTEROIDES NODOSUS	106-144	355-382							
PFMF3_ECOLI	F17 FIMBRIAL PROTEIN PRECURSOR	ESCHERICHIA COLI	97-124								
PFMM1_NEIME	FIMBRIAL PROTEIN PRECURSOR	NEISSERIA MENINGITIDIS	70-97								
PFMA2_NEIGO	FIMBRIAL PROTEIN PRECURSOR	NEISSERIA GONORRHOEAE	66-97								
PFMM1_MORNO	FIMBRIAL PROTEIN PRECURSOR	MORAXELLA NONLIQUEFACIENS	108-146								
PFMP1_PSEAE	FIMBRIAL PROTEIN PRECURSOR	PSEUDOMONAS AERUGINOSA	30-67	80-114							
PFMP3_PSEAE	FIMBRIAL PROTEIN PRECURSOR	PSEUDOMONAS AERUGINOSA	70-97								
PFMS1_ECOLI	CS1 FIMBRIAL SUBUNIT A PRECURSOR	ESCHERICHIA COLI	60-87	112-139							
PFMS3_ECOLI	CS3 FIMBRIAL SUBUNIT A PRECURSOR	ESCHERICHIA COLI	49-98								
PFM_HAEIN	MAJOR FIMBRIAL SUBUNIT PRECURSOR	HAEMOPHILUS INFLUENZAE	102-129								
PFNBA_STAAU	FIBRONECTIN-BINDING PROTEIN PRECURSOR	STAPHYLOCOCCUS AUREUS	41-83	188-215	311-365	431-458	517-555	652-686	722-756		
PFOLC_ECOLI	FOLY-POLYGLUTAMATE SYNTHASE	ESCHERICHIA COLI	125-159								
PFOLC_LACCA	FOLY-POLYGLUTAMATE SYNTHASE	LACTOBACILLUS CASEI	129-156								
PFPG_BACFI	FORMAMIDOPYRIMIDINE-DNA GLYCOSYLASE	BACILLUS FIRMUS	153-180								

PGCENE	10717544	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	ORGANISM									
PFDA_ECOLI	FUMARATE REDUCTASE FLAVOPROTEIN SUBUNIT	ESCHERICHIA COLI	395-422								
PFDA_WOLU	FUMARATE REDUCTASE FLAVOPROTEIN SUBUNIT	WOLINELLA SUCCINIGENES	8-35	487-514							
PFZE_MYXXA	GLIDING MOTILITY REGULATORY PROTEIN	MYXOCOCCUS XANTHUS	15-42	478-505							
PFTS_CLOTH	FORMATE-TETRAHYDROFOLATE LIGASE	CLOSTRIDIUM THERMOACETUM	163-190								
PFTS_MEITH	FORMYLTRANSFERASE	METHANOBACTERIUM THERMOAUTOTROPHICUM	9-43								
PFTSA_BACSU	CELL DIVISION PROTEIN FTSA	BACILLUS SUBTILIS	76-110								
PFTSA_ECOLI	CELL DIVISION PROTEIN FTSA	ESCHERICHIA COLI	301-338	375-418							
PFTSL_ECOLI	CELL DIVISION PROTEIN FTSI	ESCHERICHIA COLI	4-31								
PFTSL_ECOLI	CELL DIVISION PROTEIN FTSI	ESCHERICHIA COLI	63-90								
PFTSN_ECOLI	CELL DIVISION PROTEIN FTSN	ESCHERICHIA COLI	151-188								
PFTSX_ECOLI	CELL DIVISION PROTEIN FTSX	ESCHERICHIA COLI	278-305								
PFTSY_ECOLI	CELL DIVISION PROTEIN FTSY	ESCHERICHIA COLI	230-260								
PFUCR_ECOLI	L-FUCULOSE OPERON ACTIVATOR	ESCHERICHIA COLI	7-45								
PFUMA_BACST	FUMARATE HYDRATASE CLASS I, AEROBIC	BACILLUS STEAROTHERMOPHILUS	290-317								
PFUMH_BACSU	FUMARATE HYDRATASE	BACILLUS SUBTILIS	414-445								
PFUR_YERPE	FERRIC UPTAKE REGULATION PROTEIN	YERSINIA PESTIS	90-130								
PGIPT_ECOLI	GLYC 1-PHOS DEHYDROGENASE A	ESCHERICHIA COLI	302-329								
PGIP2_ANAVA	GLYC 1-PHOS DEHYDROGENASE 2	ANABAENA VARIABILIS	87-114								
PGIP2_ANAVA	GLYC 1-PHOS DEHYDROGENASE 3	ANABAENA VARIABILIS	162-189								
PGIP2_ECOLI	GLYC 1-PHOS DEHYDROGENASE C	ESCHERICHIA COLI	236-324								
PGIP_BACME	GLYC 1-PHOS DEHYDROGENASE	BACILLUS MEGATERIUM	40-76	237-271							
PGIP_BACSU	GLYC 1-PHOS DEHYDROGENASE	BACILLUS SUBTILIS	49-76								
PGIP_PYRWO	GLYC 1-PHOS DEHYDROGENASE	PYROCOCUS WOESI	259-286								
PGIP_THEMA	GLYC 1-PHOS DEHYDROGENASE	THERMOTOGA MARITIMA	290-328								
PGIPB_BACST	GLUCOSE-6-PHOSPHATE ISOMERASE B	BACILLUS STEAROTHERMOPHILUS	103-143	241-268							
PGIPD_ECOLI	GLUCOSE-6-PHOSPHATE 1-DEHYDROGENASE	ESCHERICHIA COLI	301-328								
PGIPD_ZYMAO	GLUCOSE-6-PHOSPHATE 1-DEHYDROGENASE	ZYMONOMAS MOBILIS	165-192								
PGACA_PSEFL	CYANIDE CONTROL PROTEIN	PSEUDOMONAS FLUORESCENS	178-205								
PGAL1_SALTU	GALACTOKINASE	SALMONELLA TYPHIMURUM	86-113								
PGAL7_HAEIN	GAL-1-PHOS URIDYL YLTRANSFERASE	HABMOPHILUS INFLUENZAE	124-158	239-269							
PGAL7_LACHE	GAL-1-PHOS URIDYL YLTRANSFERASE	LACTOBACILLUS HELVETICUS	304-338								
PGALF_SALTU	GALACTOSE OPERON REPRESSOR	SALMONELLA TYPHIMURUM	53-91								
PGALR_HAEIN	GALACTOSE OPERON REPRESSOR	HABMOPHILUS INFLUENZAE	182-209								
PGAL_PSEFL	DE D-GALACTOSE 1-DEHYDROGENASE	PSEUDOMONAS FLUORESCENS	251-278								
PGCH2_ECOLI	GTP CYCLOHYDROLASE II	ESCHERICHIA COLI	78-105								
PGCH2_PHOLE	GTP CYCLOHYDROLASE II	PHOTOBACTERIUM LEIOGNATHI	197-227	246-273							
PGCSH_ECOLI	GLYCINE CLEAVAGE SYSTEM H PROTEIN	ESCHERICHIA COLI	10-37								
PGCSP_ECOLI	GLYCINE DEHYDROGENASE	ESCHERICHIA COLI	216-246								
PGCVA_ECOLI	GLYCINE CLEAVAGE SYSTEM TRANSACTIVATOR	ESCHERICHIA COLI	60-94								
PGENK_ECOLI	PROTEIN K	ESCHERICHIA COLI	24-51								
PGER1_BACSU	SPORE GERMINATION PROTEIN I	BACILLUS SUBTILIS	49-83	182-216	350-384						
PGERJ_BACSU	SPORE GERMINATION PROTEIN III PRECURSOR	BACILLUS SUBTILIS	293-323								
PGERE_BACSU	GERMINATION PROTEIN GERE	BACILLUS SUBTILIS	13-40								
PGGIB_STAHA	ANTIBACTERIAL PROTEIN 2	STAPHYLOCOCCUS HAEMOLYTICUS	6-33								
PGGIB_STAHA	ANTIBACTERIAL PROTEIN 3	STAPHYLOCOCCUS HAEMOLYTICUS	6-33								
PGIDA_BACSU	GLUCOSE INHIBITED DIVISION PROTEIN A	BACILLUS SUBTILIS	356-423								
PGIDA_ECOLI	GLUCOSE INHIBITED DIVISION PROTEIN A	ESCHERICHIA COLI	533-568								
PGIDA_PSEPU	GLUCOSE INHIBITED DIVISION PROTEIN A	PSEUDOMONAS PUTIDA	539-566								
PGIDB_BACSU	GLUCOSE INHIBITED DIVISION PROTEIN B	BACILLUS SUBTILIS	34-61								
PGIDB_PSEPU	GLUCOSE INHIBITED DIVISION PROTEIN B	PSEUDOMONAS PUTIDA	25-52								
PGICP_SYNT3	GLUCOSE TRANSPORT PROTEIN	SYNECHOCYSTIS SP	288-322								
PGIDA_BACST	GLYCEROL DEHYDROGENASE	BACILLUS STEAROTHERMOPHILUS	20-79								
PGLOA_ECOLI	GLYCEROL SYNTHASE	ESCHERICHIA COLI	256-283								
PGLGC_ECOLI	GLUCOSE-1-PHOSPHATE ADENYL YLTRANSFERASE	ESCHERICHIA COLI	114-141								
PGLGC_SALTU	GLUCOSE-1-PHOSPHATE ADENYL YLTRANSFERASE	SALMONELLA TYPHIMURUM	114-141								
PGLMS_ECOLI	GLUC-1-FRUC-6-PHOSAMINOTRANSFERASE	ESCHERICHIA COLI	209-243								
PGLN1_MEITL	GLNB-LIKE PROTEIN 1	METHANOCOCCUS THERMOLITHOTROPHICUS	58-85								

PCGENE	10711714	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PGSPF_XANCP	PROTEIN F	XANTHOMONAS CAMPESTRIS	210-257								
PGSPH_PSEAE	PROTEIN H PRECURSOR	PSEUDOMONAS AERUGINOSA	18-59								
PGSPI_AERHY	PROTEIN I PRECURSOR	AEROMONAS HYDROPHILA	27-61								
PGSPI_ERWCA	PROTEIN I PRECURSOR	ERWINIA CAROTOVORA	35-62								
PGSPJ_KLEPN	PROTEIN I PRECURSOR	KLEBSIELLA PNEUMONIAE	140-167								
PGSPK_ERWCA	PROTEIN K	ERWINIA CAROTOVORA	28-55								
PGSPK_ERWCH	PROTEIN K	ERWINIA CHRYSANTHEMI	28-55								
PGSPK_KLEPN	PROTEIN K	KLEBSIELLA PNEUMONIAE	72-99								
PGSPK_PSEAE	PROTEIN K	PSEUDOMONAS AERUGINOSA	262-280								
PGSPL_ERWCH	PROTEIN L	ERWINIA CHRYSANTHEMI	7-42	248-286	311-358						
PGSPL_XANCP	PROTEIN L	XANTHOMONAS CAMPESTRIS	39-73	297-324							
PGSPM_ERWCA	PROTEIN M	ERWINIA CAROTOVORA	108-145								
PGSOD_ERWCH	PROTEIN D PRECURSOR	ERWINIA CHRYSANTHEMI	259-302	448-475	546-573	657-684					
PGTFL_STRDO	GLUCOSYLTRANSFERASE-1 PRECURSOR	STREPTOCOCCUS DOWNEI	42-69	177-204	212-239	464-491	1382-1416	1495-1529			
PGTFL_STRDO	GLUCOSYLTRANSFERASE-1 PRECURSOR	STREPTOCOCCUS DOWNEI	171-198	206-233	458-485	1382-1412	1407-1524				
PGTFA_STRMU	GLUCOSYLTRANSFERASE-S	STREPTOCOCCUS MUTANS	297-350								
PGTFC_STRMU	GLUCOSYLTRANSFERASE-1 PRECURSOR	STREPTOCOCCUS MUTANS	42-93	110-137	161-188	199-246	313-347	592-627			
PGTFC_STRMU	GLUCOSYLTRANSFERASE-S PRECURSOR	STREPTOCOCCUS MUTANS	4-40	110-138	235-262	330-361	614-653				
PGTFS_STRDO	GLUCOSYLTRANSFERASE-S PRECURSOR	STREPTOCOCCUS DOWNEI	275-316	436-463	1281-1315						
PGTMR_METTF	POSSIBLE G-T MISMATCHES REPAIR ENZYME	METHANOBACTERIUM THERMOFORMICUM	80-107	148-175							
PGUAA_BACSU	GMP SYNTHASE	BACILLUS SUBTILIS	314-348	399-436	478-503						
PGUAA_ECOLI	GMP SYNTHASE	ESCHERICHIA COLI	105-132								
PGUB_BACCI	BETA-GLUCANASE PRECURSOR	BACILLUS CIRCULANS	164-191								
PGUB_BAGLI	BETA-GLUCANASE PRECURSOR	BACILLUS LICHENIFORMIS	132-166								
PGUB_BAGMA	BETA-GLUCANASE PRECURSOR	BACILLUS MACERANS	126-160								
PGUNI_BACS4	ENDOGLUCANASE A	BACILLUS SP	18-49								
PGUNI_BACS4	ENDOGLUCANASE PRECURSOR	BACILLUS SUBTILIS	270-304	376-403							
PGUNI_BUTFI	ENDOGLUCANASE I	BUTYRIVIBRIO FIBROSOLVENS	154-181	452-495							
PGUNZ_THEFU	ENDOGLUCANASE E-2 PRECURSOR	BACILLUS SUBTILIS	270-304								
PGUNZ_THEFU	ENDOGLUCANASE E-2 PRECURSOR	THERMOMONOSPORA FUSCA	201-228								
PGUNZ_BACS4	ENDOGLUCANASE C PRECURSOR	BACILLUS SP	110-137	348-378	538-565						
PGUNZ_BACS4	ENDOGLUCANASE PRECURSOR	BACILLUS SUBTILIS	270-304								
PGUNZ_FIBSU	ENDOGLUCANASE J PRECURSOR	FIBROBACTER SUCCINOGENES	542-586								
PGUNA_THEFU	ENDOGLUCANASE E-4 PRECURSOR	THERMOMONOSPORA FUSCA	308-342								
PGUNA_THEFU	ENDOGLUCANASE E-3 PRECURSOR	THERMOMONOSPORA FUSCA	44-71								
PGUNA_BAGLA	ENDOGLUCANASE A PRECURSOR	BACILLUS LAUTUS	410-437	454-481							
PGUNA_CLOTH	ENDOGLUCANASE A PRECURSOR	CLOSTRIDIUM THERMOCELLUM	354-384								
PGUNA_PSEFL	ENDOGLUCANASE A PRECURSOR	PSEUDOMONAS FLUORESCENS	762-789								
PGUNA_RUMAL	ENDOGLUCANASE A	RUMINOCOCCUS ALBUS	294-321								
PGUNA_RUMFL	CELLODEXTRINASE A	RUMINOCOCCUS FLAVEFACIENS	276-303								
PGUNB_BAGLA	ENDOGLUCANASE B PRECURSOR	BACILLUS LAUTUS	375-450								
PGUNB_CALSA	ENDOGLUCANASE B	CALDOCELLUM SACCHAROLYTICUM	151-182	444-478							
PGUNB_CELFI	ENDOGLUCANASE B PRECURSOR	CELLULOMONAS FIMI	266-293								
PGUNB_CLOCL	ENDOGLUCANASE B PRECURSOR	CLOSTRIDIUM CELLULOVOXANS	144-171	266-300							
PGUNB_CLOTH	ENDOGLUCANASE B PRECURSOR	CLOSTRIDIUM THERMOCELLUM	514-541								
PGUNC_CELFI	ENDOGLUCANASE C PRECURSOR	CELLULOMONAS FIMI	881-908								
PGUNC_PSEFL	ENDOGLUCANASE C PRECURSOR	PSEUDOMONAS FLUORESCENS	52-82								
PGUND_CLOCE	ENDOGLUCANASE D PRECURSOR	CLOSTRIDIUM CELLULOYTICUM	382-453								
PGUND_CLOCL	ENDOGLUCANASE D PRECURSOR	CLOSTRIDIUM CELLULOYTICUM	145-172	271-298							
PGUNE_CLOTH	ENDOGLUCANASE E PRECURSOR	CLOSTRIDIUM THERMOCELLUM	158-185	207-234	284-311						
PGUNH_CLOTH	ENDOGLUCANASE H PRECURSOR	CLOSTRIDIUM THERMOCELLUM	46-73	423-452							
PGUNS_ERWCA	ENDOGLUCANASE PRECURSOR	ERWINIA CAROTOVORA	20-47	115-149							
PGUNX_CLOTH	PUTATIVE ENDOGLUCANASE X	CLOSTRIDIUM THERMOCELLUM	105-139								
PGUNZ_CLOS	ENDOGLUCANASE Z PRECURSOR	CLOSTRIDIUM STERCORARIUM	296-326	522-549							
PGUN_BACS1	ENDOGLUCANASE PRECURSOR	BACILLUS POLYMEXA	198-225								
PGUN_BACS1	ENDOGLUCANASE PRECURSOR	BACILLUS SP	321-348								
PGUN_BACS6	ENDOGLUCANASE PRECURSOR	BACILLUS SP	198-229	501-528	623-664						

PCGENE	10711784	Prokaryotic Sequences									
FILE NAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PGUTD_ECOLI	SORBITOL-4-PHOSPHATE 2-DEHYDROGENASE	ESCHERICHIA COLI	138-163								
POVP1_HALHA	GAS VESICLE PROTEIN, PLASMID	HALOBACTERIUM HALOBIIUM	36-63								
POVP2_HALHA	GAS VESICLE PROTEIN, CHROMOSOMAL	HALOBACTERIUM HALOBIIUM	36-63								
PGVPA_APHFL	GAS VESICLE PROTEIN	APHANIZOMENON FLOS-AQUAE	4-31	39-66							
PGVPA_FREDI	GAS VESICLE PROTEIN	FREMYELLA DIPLOPHON	4-31	39-66							
PGVPA_HALME	GAS VESICLE PROTEIN	HALOBACTERIUM MEDITERRANEI	37-64								
PGVPA_MICBC	GAS VESICLE PROTEIN	MICROCYSTIS SP.	39-66								
PGVPA_PSEAN	GAS VESICLE PROTEIN C	PSEUDONANADAENA SP.	4-31	39-66							
POVPC_APHFL	GAS VESICLE PROTEIN C	APHANIZOMENON FLOS-AQUAE	8-49								
POVPC_HALHA	GAS VESICLE PROTEIN C	HALOBACTERIUM HALOBIIUM	150-249								
POVPC_HALME	GAS VESICLE PROTEIN C	HALOBACTERIUM MEDITERRANEI	139-169								
POVPD_HALHA	GVPD PROTEIN, PLASMID	HALOBACTERIUM HALOBIIUM	110-147								
POVPD_HALME	GVPD PROTEIN	HALOBACTERIUM MEDITERRANEI	110-147								
POVPF_HALHA	GVPF PROTEIN, PLASMID	HALOBACTERIUM HALOBIIUM	13-47	135-169							
POVPF_HALME	GVPF PROTEIN	HALOBACTERIUM MEDITERRANEI	13-47								
POVPF_HALSA	GVPF PROTEIN	HALOBACTERIUM SALINARIUM	8-49								
POVPG_HALHA	GVPG PROTEIN, PLASMID	HALOBACTERIUM HALOBIIUM	38-65								
POVPG_HALME	GVPG PROTEIN	HALOBACTERIUM MEDITERRANEI	38-72								
POVPH_HALHA	GVPH PROTEIN	HALOBACTERIUM HALOBIIUM	10-40								
POVP1_HALME	GVPI PROTEIN	HALOBACTERIUM MEDITERRANEI	5-32								
POVPK_HALHA	GVPK PROTEIN	HALOBACTERIUM HALOBIIUM	45-76								
POVPK_HALME	GVPK PROTEIN	HALOBACTERIUM MEDITERRANEI	12-39	47-74							
POVPK_HALSA	GVPK PROTEIN	HALOBACTERIUM SALINARIUM	11-38	50-77							
POVPL_HALME	GVPL PROTEIN	HALOBACTERIUM MEDITERRANEI	44-78								
POVPN_HALHA	GVPN PROTEIN	HALOBACTERIUM HALOBIIUM	113-140								
POVPN_HALME	GVPN PROTEIN	HALOBACTERIUM MEDITERRANEI	15-56								
POVPD_HALME	GVPO PROTEIN	HALOBACTERIUM MEDITERRANEI	69-96	103-132							
POVRA_BACSU	DNA GYRASE SUBUNIT A	BACILLUS SUBTILIS	380-407	429-499							
POVRA_CAMIE	DNA GYRASE SUBUNIT A	CAMPYLOBACTER JEJUNI	267-310	381-408	452-479	665-695					
POVRA_ECOLI	DNA GYRASE SUBUNIT A	ESCHERICHIA COLI	266-291	449-497							
POVRA_KLEPN	DNA GYRASE SUBUNIT A	KLEBSIELLA PNEUMONIAE	266-291	448-496	518-545						
POVRA_MYCPN	DNA GYRASE SUBUNIT A	MYCOPLASMA PNEUMONIAE	4-31								
POVRA_STAAU	DNA GYRASE SUBUNIT A	STAPHYLOCOCCUS AUREUS	129-156	146-373	430-479	647-674	812-839				
POVRS_BACSU	DNA GYRASE SUBUNIT B	BACILLUS SUBTILIS	198-239								
POVRS_BORBU	DNA GYRASE SUBUNIT B	BORRELIA BURGDORFERI	154-181								
POVRS_ECOLI	DNA GYRASE SUBUNIT B	ESCHERICHIA COLI	616-643								
POVRS_HALSQ	DNA GYRASE SUBUNIT B	HALOFERAX SP.	230-257								
POVRS_MYCPN	DNA GYRASE SUBUNIT B	MYCOPLASMA PNEUMONIAE	249-283								
POVRS_NEIGO	DNA GYRASE SUBUNIT B	NEISSERIA GONORRHOEA	524-538	618-645							
POVRS_PSEPU	DNA GYRASE SUBUNIT B	PSEUDOMONAS PUTIDA	122-149	684-711							
POVRS_SPICI	DNA GYRASE SUBUNIT B	SPIROPLASMA CITRI	40-74	189-238	283-310	341-368	340-379				
POVRS_STAAU	DNA GYRASE SUBUNIT B	STAPHYLOCOCCUS AUREUS	252-279	291-318							
PHDHA_ECOLI	7-ALPHA-HYDROXYSTEROID DEHYDROGENASE	ESCHERICHIA COLI	71-98								
PHELD_ECOLI	HELICASE IV	ESCHERICHIA COLI	100-134	529-556							
PHELI_HAEIN	LIPOPROTEIN E PRECURSOR	HAEMOPHILUS INFLUENZAE	58-85								
PHEMI_CHLVI	GLUTAMYL-TRNA REDUCTASE	CHLOROBIDIUM VIBRIOFORMES	232-259								
PHEMI_ECOLI	GLUTAMYL-TRNA REDUCTASE	ESCHERICHIA COLI	289-316								
PHEMI_RHOSH	5-AMINOLEVULINIC ACID SYNTHASE	RHODOBACTER SPHAEROIDES	73-100								
PHEMI_SALTY	GLUTAMYL-TRNA REDUCTASE (SALMONELLA TYPHIMURUM	289-316	344-371							
PHEMI_SYNY3	GLUTAMYL-TRNA REDUCTASE	SYNECHOCYSTIS SP.	163-190	350-377							
PHIEM2_METSC	DELTA-AMINOLEVULINIC ACID DEHYDRATASE	METHANOTHERMUS SOCIABILIS	131-158								
PHIEM4_BACSU	PUTATIVE UROPORPHYRINOGEN-III SYNTHASE	BACILLUS SUBTILIS	10-37								
PHIEM4_ECOLI	UROPORPHYRINOGEN-III SYNTHASE	ESCHERICHIA COLI	211-238								
PHIEM4_ECOLI	HEM M PROTEIN	ESCHERICHIA COLI	147-174								
PHIEMX_YEREN	HEM M RECEPTOR PRECURSOR	YERSINIA ENTEROCOLITICA	234-261								
PHIEMX_ECOLI	PUTATIVE METHYLTRANSFERASE	ESCHERICHIA COLI	69-138	185-219							
PHIEMX_BACSU	HEM M PROTEIN	BACILLUS SUBTILIS	217-262								

PCGENE	1071178.4	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM									
PHEN2_BACSU	FERROCHELATASE	BACILLUS SUBTILIS	199-226								
PHETA_ANASP	HETEROCYST DIFFERENTIATION PROTEIN	ANABAENA SP	184-211	357-398	521-565						
PHETA_STRPN	DNA MISMATCH REPAIR PROTEIN HEXA	STREPTOCOCCUS PNEUMONIAE	426-460								
PHETA_STRPN	DNA MISMATCH REPAIR PROTEIN HEXB	STREPTOCOCCUS PNEUMONIAE	470-497								
PHFAB_CAUCR	POS TRANSACTIVATOR PROTEIN HFAB	CAULOBACTER CRESCENTUS	98-125								
PHFLC_ECOLI	HFLC PROTEIN	ESCHERICHIA COLI	113-140								
PHFLX_ECOLI	GTP-BINDING PROTEIN HFLX	ESCHERICHIA COLI	169-196								
PHIFQ_ECOLI	HIST FACTOR-I PROTEIN	ESCHERICHIA COLI	24-51								
PHIFC_HAEN	PILIATION PROTEIN HIFC PRECURSOR	HAEMOPHILUS INFLUENZAE	356-383	404-431	447-474						
PHIS2_LACLA	PHOSPHORIBOSYL-AMP CYCLOHYDROLASE	LACTOCOCCUS LACTIS	126-174								
PHIS4_ECOLI	P-3-A CARBOXAMIDE RIBOTIDE	ESCHERICHIA COLI	125-159								
PHIS4_LACLA	P-3-A CARBOXAMIDE RIBOTIDE	LACTOCOCCUS LACTIS	49-89	181-228							
PHIS4_METVA	P-3-A CARBOXAMIDE RIBOTIDE	METHANOCOCCUS VANNIELII	115-142								
PHIS4_SALTU	P-3-A CARBOXAMIDE RIBOTIDE	SALMONELLA TYPHIMURUM	125-159								
PHIS5_LACLA	AMIDOTRANSFERASE HISH	LACTOCOCCUS LACTIS	7-34								
PHIS6_ECOLI	HISF PROTEIN	ESCHERICHIA COLI	39-66	142-169							
PHIS6_SALTU	HISF PROTEIN	SALMONELLA TYPHIMURUM	39-66	142-169							
PHIS7_ECOLI	IMIDAZOLEGLYCEROL-PHOSPHATE DEHYDRATASE	ESCHERICHIA COLI	168-199								
PHIS7_SALTU	IMIDAZOLEGLYCEROL-PHOSPHATE DEHYDRATASE	SALMONELLA TYPHIMURUM	161-199								
PHIS8_ECOLI	HISTIDINOL-PHOSPHATE AMINOTRANSFERASE	ESCHERICHIA COLI	290-317								
PHIS8_HALYO	HISTIDINOL-PHOSPHATE AMINOTRANSFERASE	HALOBACTERIUM VOLCANII	174-201								
PHIS8_LACLA	HISTIDINOL-PHOSPHATE AMINOTRANSFERASE	LACTOCOCCUS LACTIS	161-188								
PHIS8_SALTU	HISTIDINOL-PHOSPHATE AMINOTRANSFERASE	SALMONELLA TYPHIMURUM	293-320								
PHISQ_SALTU	HISTIDINE PERMEASE MEMBRANE Q PROTEIN	SALMONELLA TYPHIMURUM	8-35								
PHISX_ECOLI	HISTIDINOL DEHYDROGENASE	ESCHERICHIA COLI	391-434								
PHISX_LACLA	HISTIDINOL DEHYDROGENASE	LACTOCOCCUS LACTIS	19-46	264-303							
PHISX_MYCSM	HISTIDINOL DEHYDROGENASE	MYCOBACTERIUM SMEGMATIS	288-329	399-430							
PHISX_SALTU	HISTIDINOL DEHYDROGENASE	SALMONELLA TYPHIMURUM	391-434								
PHLA_STAAU	ALPHA-HEMOLYSIN PRECURSOR	STAPHYLOCOCCUS AUREUS	69-103								
PHLY1_ECOLI	HEMOLYSIN A, CHROMOSOMAL	ESCHERICHIA COLI	5-32	76-103	161-224	234-261	353-380	458-492	554-581	642-728	
PHLY2_ECOLI	HEMOLYSIN SECRETION PROTEIN, CHROMOSOMAL	ESCHERICHIA COLI	487-514								
PHLY4_ECOLI	HEMOLYSIN D, CHROMOSOMAL	ESCHERICHIA COLI	103-133	178-215	223-331						
PHLYA_ACTPL	HEMOLYSIN	ACTINOBACILLUS PLEUROPNEMONIAE	5-39	136-170	184-218	273-300	350-377	459-527	846-924		
PHLYA_ACTSU	HEMOLYSIN	ACTINOBACILLUS SUI	5-39	136-170	184-218	273-300	350-377	459-500	846-924		
PHLYA_ECOLI	HEMOLYSIN A, PLASMID	ESCHERICHIA COLI	5-32	76-103	161-262	354-381	452-493	555-582	643-729		
PHLYA_PROMI	HEMOLYSIN PRECURSOR	PROTEUS MIRABILIS	165-196	299-338	356-400	425-471	498-525	528-576	610-695	705-742	747-774
PHLYA_SERMA	HEMOLYSIN PRECURSOR	SERRATA MARCESCENS	789-823	841-868	966-993	1113-1140	1166-1193	1225-1273	1301-1342	1391-1461	1483-1527
			311-345	477-504	558-585	625-703	718-745	830-864	1081-1108	1155-1202	1249-1286
			1516-1553								
PHLYA_VIBCH	HEMOLYSIN PRECURSOR	VIBRIO CHOLERAE	335-369	618-665							
PHLYB_ACTPL	HAEMOLYSIN SECRETION PROTEIN	ACTINOBACILLUS PLEUROPNEMONIAE	34-61								
PHLYB_ECOLI	HAEMOLYSIN SECRETION PROTEIN, PLASMID	ESCHERICHIA COLI	487-514								
PHLYB_PROMI	HEMOLYSIN ACTIVATOR PROTEIN PRECURSOR	PROTEUS MIRABILIS	16-64	499-547							
PHLYB_PROVU	HAEMOLYSIN SECRETION PROTEIN	PROTEUS MIRABILIS	34-68	487-514							
PHLYB_SERMA	HEMOLYSIN ACTIVATOR PROTEIN PRECURSOR	SERRATA MARCESCENS	110-137								
PHLYB_VIBCH	HEMOLYSIN SECRETION PROTEIN PRECURSOR	VIBRIO CHOLERAE	335-398	413-447	458-524						
PHLYC_ACTPL	HEMOLYSIN C	ACTINOBACILLUS PLEUROPNEMONIAE	130-157								
PHLYD_ACTPL	HEMOLYSIN SECRETION PROTEIN APPD	ACTINOBACILLUS PLEUROPNEMONIAE	191-311								
PHLYD_ECOLI	HEMOLYSIN D, PLASMID	ESCHERICHIA COLI	103-133	178-215	223-331						
PHLY_HALI7	HALOPHILIC BACTERIA STRAIN 172P1	HALOPHILIC BACTERIA STRAIN 172P1	484-516								
PHMCI_DESVH	41.2 KD PROTEIN IN HMC OPERON	DESULFOVIBRIO VULGARIS	156-186								
PHMD_METKA	H2O-FORMING DEHYDROGENASE	METHANOPTRUS KANDLERI	36-63								
PHNS_SERMA	DNA-BINDING PROTEIN H-NS	SERRATA MARCESCENS	35-62								
PHOLA_ECOLI	DNA POLYMERASE III DELTA SUBUNIT	ESCHERICHIA COLI	94-121	288-322							
PHOXA_BRAJA	REG PROTEIN HOXA	BRADYRHIZOBIUM JAPONICUM	113-163	444-471							
PHOXF_NOCOOP	HOXS ALPHA SUBUNIT	NOCARDIA OPACA	4-31								
PHOXO_ALCEU	HOXO PROTEIN	ALCALIGENES EUTROPHUS	76-110								

PCGENE	107117b4	Prokaryotic Sequence	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	ORGANISM									
PHOX BRAJA	HOXX PROTEIN	BRADYRHIZOBIIUM JAPONICUM	356-383								
PHPI DEIRA	HEXAGONALLY SURFACE PROTEIN PRECURSOR	DEINOCOCCUS RADIOURANS	585-612								
PHPT LACLA	PHOSPHORIBOSYLTRANSFERASE	LACTOCOCCUS LACTIS	3-39	71-105							
PHRD STRCO	SIGMA FACTOR HRD	STREPTOMYCES COELICOLOR	296-323								
PHRP BURSO	REGULATORY PROTEIN HRPB	BURKHOLDERIA SOLANACEARUM	371-405								
PHRP PSEY	OUTER MEMBRANE PROTEIN HRPB PRECURSOR	PSEUDOMONAS SYRINGAE	102-129	310-344							
PHRS PSEH	PROBABLE REGULATORY PROTEIN HRPB	PSEUDOMONAS SYRINGAE	24-51								
PHSB CLOAB	18 KD HEAT SHOCK PROTEIN	CLOSTRIDIUM ACETOBYLICUM	67-108								
PHS70 HALMA	HEAT SHOCK 70 KD PROTEIN	HALOARCTULA MARINORUM	522-576								
PHS70 MYCLE	HEAT SHOCK 70 KD PROTEIN	MYCOBACTERIUM LIPMAI	461-488	501-510							
PHS70 MYCPA	HEAT SHOCK 70 KD PROTEIN	MYCOBACTERIUM PARATUBERCULOSIS	460-487								
PHTR ECOLI	HEAT SHOCK PROTEIN C62.5	ESCHERICHIA COLI	221-248	482-509							
PHTR ECOLI	PROTEASE DO PRECURSOR	ESCHERICHIA COLI	373-400								
PHTR ECOLI	HTRE PROTEIN PRECURSOR	ESCHERICHIA COLI	454-484	524-576							
PHTR HALHA	SENSORY RHODOPSIN I TRANSDUCER	HALOBACTERIUM HALOBILIUM	413-471	479-506							
PHTR HALSA	SENSORY RHODOPSIN I TRANSDUCER	HALOBACTERIUM SALINARIUM	114-149	413-471	479-506						
PHUTP BACSU	HIUT OPERON POSITIVE REGULATORY PROTEIN	BACILLUS SUBTILIS	5-36								
PHVTI LACIE	HELVETICIN I	LACTOBACILLUS HELVETICUS	174-212	306-333							
PHYCA ECOLI	FORMATE HYDROGENLYASE SUBUNIT I	ESCHERICHIA COLI	73-100	106-133							
PHYDO ECOLI	TRANSCRIPTIONAL REGULATORY PROTEIN HYDG	ESCHERICHIA COLI	251-278								
PHYDO SALT	TRANSCRIPTIONAL REGULATORY PROTEIN HYDG	SALMONELLA TYPHIMURUM	251-278								
PHYDH ECOLI	SENSOR PROTEIN HYDH	ESCHERICHIA COLI	312-339	306-387							
PHYUB PSEH	HYDANTOIN UTILIZATION PROTEIN B	PSEUDOMONAS SP	534-581								
PHYUC PSEH	HYDANTOIN UTILIZATION PROTEIN	PSEUDOMONAS SP	6-40	96-123							
PIAAL PSEH	INDOLEACETATE-LYSINE LIGASE	PSEUDOMONAS SYRINGAE	133-160	297-331							
PIAP ECOLI	ALK PHOS ISOZYME CONVERSION PROTEIN	ESCHERICHIA COLI	74-101								
PIEN ERWAN	ICE NUCLEATION PROTEIN	ERWINIA ANANAS	326-353	422-449	534-561	614-641	662-689	721-748	758-785	854-881	950-977
PIEN ERWHE	ICE NUCLEATION PROTEIN	ERWINIA HERBICOLA	1046-1073								
PIEN PSEFL	ICE NUCLEATION PROTEIN	PSEUDOMONAS FLUORESCENS	310-337	406-433	534-561	646-673	694-721	838-865	886-913	982-1009	
PIEN PSEY	ICE NUCLEATION PROTEIN	PSEUDOMONAS SYRINGAE	281-308	377-404	425-452	681-708	729-781	795-852			
PIEN XANCT	ICE NUCLEATION PROTEIN	XANTHOMONAS CAMPESSTRIS	564-602	772-847	868-895	909-943					
PICSB SHUFL	INTERCELLULAR SPREAD PROTEIN	SHIGELLA FLEXNERI	496-534	555-582	1168-1204	1248-1275					
PIE2 BACST	INITIATION FACTOR IF-2	BACILLUS STEAROTHERMOPHILUS	41-105	438-467							
PIE2 BACSU	INITIATION FACTOR IF-2	BACILLUS SUBTILIS	540-567	681-708							
PIE2 ECOLI	INITIATION FACTOR IF-2	ESCHERICHIA COLI	173-208	394-421							
PIE2 ENTFC	INITIATION FACTOR IF-2	ENTEROCOCCUS FAECIUM	686-724	835-862							
PIE2 ECOLI	INITIATION FACTOR IF-3	BACILLUS STEAROTHERMOPHILUS	579-627								
PIE2 ECOLI	INITIATION FACTOR IF-3	ESCHERICHIA COLI	7-34								
PIE2 KLEPN	INITIATION FACTOR IF-3	KLEBSIELLA PNEUMONIAE	27-54	70-97							
PIE2 MYCFE	INITIATION FACTOR IF-3	MYCOPLASMA FERMENTANS	27-54	70-97							
PIE2 PROVU	INITIATION FACTOR IF-3	PROTEUS VULGARIS	2-29	70-97							
PIE2 SALT	INITIATION FACTOR IF-3	SALMONELLA TYPHIMURUM	27-54	70-97							
PIE2 SERMA	INITIATION FACTOR IF-3	SERRATIA MARCESCENS	19-46	70-97							
PIGA NEIGO	IGA-SPECIFIC SERINE ENDOPEPTIDASE	NEISSERIA GONORRHOEA	245-272	287-314	833-860	1024-1058	1377-1404	1483-1531			
PIGB STRSP	IGG BINDING PROTEIN PRECURSOR	STREPTOCOCCUS SP	46-76	120-150	195-222						
PIGG STRSP	IGG BINDING PROTEIN PRECURSOR	STREPTOCOCCUS SP	46-76	120-150	195-225	270-297					
PILVH ECOLI	ACETOLACTATE SYNTHASE	ESCHERICHIA COLI	47-81	120-147							
PILVH SALT	ACETOLACTATE SYNTHASE	SALMONELLA TYPHIMURUM	47-81	120-147							
PILVH LACLA	ACETOLACTATE SYNTHASE	LACTOCOCCUS LACTIS	20-75								
PIMP ACICA	INOSINE-5-MONOPHOSPHATE DEHYDROGENASE	IMPB PROTEIN	185-212								
PIMP BACSU	E-5-MONOPHOSPHATE DEHYDROGENASE	ACINETOBACTER CALCOACETICUS	166-193								
PINA BACTL	IMMUNE INHIBITOR A PRECURSOR	BACILLUS SUBTILIS	159-186								
PINLA LISMO	INTERNALIN A	BACILLUS THURINGIENSIS	103-130	324-358							
PINLB LISMO	INTERNALIN B PRECURSOR	LISTERIA MONOCYTOGENES	106-143	161-188	196-232						
PINVA YEREN	INTERNALIN	LISTERIA MONOCYTOGENES	53-94	166-200	385-415						
PINVA YEREN	INTERNALIN	YERSINIA ENTEROCOLITICA	501-535								

PCGENE	10717844	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PIPA7_SHIFL	60 KD ANTIGEN	SHIGELLA FLEXNERI	285-312								
PIPA8_SHIFL	70 KD ANTIGEN	SHIGELLA FLEXNERI	95-136	437-475	493-557	596-630					
PIPA9_SHIFL	62 KD MEMBRANE ANTIGEN	SHIGELLA DYSENTERIAE	28-55	71-169	480-507	522-556					
PIPA10_SHIFL	62 KD MEMBRANE ANTIGEN	SHIGELLA FLEXNERI	28-55	71-169	480-507	522-556					
PIPA11_SHIFL	42 KD MEMBRANE ANTIGEN PRECURSOR	SHIGELLA DYSENTERIAE	21-57	113-161	273-300	324-378					
PIPA12_SHIFL	42 KD MEMBRANE ANTIGEN PRECURSOR	SHIGELLA FLEXNERI	28-57	113-161	273-300	324-378					
PIPA13_SHIFL	37 KD MEMBRANE ANTIGEN IPAD	SHIGELLA DYSENTERIAE	47-86	291-318							
PIPA14_SHIFL	36 KD MEMBRANE ANTIGEN	SHIGELLA FLEXNERI	47-86	259-286	291-318						
PIPA15_SHIFL	IPGB PROTEIN	SHIGELLA FLEXNERI	175-202								
PIPA16_SHIFL	IPGB PROTEIN	SHIGELLA FLEXNERI	175-202								
PIPA17_SHIFL	ISOPENTENYL TRANSFERASE	ESCHERICHIA COLI	53-87	143-173							
PIPA18_SHIFL	INORGANIC PYROPHOSPHATASE	ESCHERICHIA COLI	138-172								
PIPA19_SHIFL	VRULENCE PROTEIN PRECURSOR	VIBRIO CHOLERAE	212-239	336-377							
PIPA20_SHIFL	VRULENCE REGULATORY PROTEIN IRGB	VIBRIO CHOLERAE	67-97								
PIPA21_SHIFL	IRON-REGULATED PROTEIN A	SYNECHOCOCCUS SP	167-194								
PIPA22_SHIFL	INSERTION ELEMENT ISO-ISID PROTEIN INSB	SHIGELLA DYSENTERIAE	86-113								
PIPA23_SHIFL	INSERTION ELEMENT ISO-ISIN PROTEIN INSB	SHIGELLA DYSENTERIAE	6-37								
PIPA24_SHIFL	INSERTION ELEMENT ISI PROTEIN INSB	ESCHERICHIA COLI	122-149								
PIPA25_SHIFL	INSERTION ELEMENT ISI PROTEIN INSB	SHIGELLA FLEXNERI	86-113								
PIPA26_SHIFL	INSERTION ELEMENT ISI PROTEIN INSB	SHIGELLA SONNEI	86-113								
PIPA27_SHIFL	MAJOR INTRACELLULAR SERINE PROTEASE	BACILLUS SUBTILIS	115-142	197-224	253-280						
PIPA28_SHIFL	INTRACELLULAR SERINE PROTEASE	BACILLUS POLYMYXA	109-143								
PIPA29_SHIFL	ISTA PROTEIN	ESCHERICHIA COLI	183-210								
PIPA30_SHIFL	ISTA PROTEIN	SHIGELLA SONNEI	183-210								
PIPA31_SHIFL	FERRIC AEROBACTIN RECEPTOR PRECURSOR	ESCHERICHIA COLI	186-213	525-552	559-593						
PIPA32_SHIFL	JAG PROTEIN	BACILLUS SUBTILIS	68-95								
PIPA33_SHIFL	6-PHOSPHOFRUCTOKINASE ISOZYME 2	ESCHERICHIA COLI	143-170								
PIPA34_SHIFL	ADENYLATE KINASE	BACILLUS SUBTILIS	188-215								
PIPA35_SHIFL	ADENYLATE KINASE	LACTOCOCCUS LACTIS	186-213								
PIPA36_SHIFL	KANAMYCIN NUCLEOTIDYL TRANSFERASE	BACILLUS SP	69-96								
PIPA37_SHIFL	KANAMYCIN NUCLEOTIDYL TRANSFERASE	STAPHYLOCOCCUS AUREUS	69-96								
PIPA38_SHIFL	2-KETO-3-DEOXYGLUCONATE PERMEASE	ESCHERICHIA COLI	70-97								
PIPA39_SHIFL	2-KETO-3-DEOXYGLUCONATE PERMEASE	ERWINIA CHRYSANTHEMI	126-153								
PIPA40_SHIFL	3-DEOXY-D-MANNO-OCTULOSONIC-ACID TRANS	ESCHERICHIA COLI	369-396								
PIPA41_SHIFL	ALPHA-KETOGLUTARATE PERMEASE	ESCHERICHIA COLI	7-34								
PIPA42_SHIFL	GUANYLATE KINASE	ESCHERICHIA COLI	162-189								
PIPA43_SHIFL	HOMOSERINE KINASE	BACILLUS SUBTILIS	49-76								
PIPA44_SHIFL	HOMOSERINE KINASE	FREMYELLA DIPLOPHON	52-79								
PIPA45_SHIFL	AMINOGLYCOSIDE 3'-PHOSPHOTRANSFERASE	BACILLUS CIRCULANS	12-39								
PIPA46_SHIFL	KORR TRANSCRIPTIONAL REPRESSOR PROTEIN	ESCHERICHIA COLI	228-255								
PIPA47_SHIFL	PYRUVATE KINASE	SPIROPLASMA CITRI	112-148								
PIPA48_SHIFL	PYRUVATE KINASE	BACILLUS STEAROTHERMOPHILUS	331-374								
PIPA49_SHIFL	ISOMERASE LACA SUBUNIT	STAPHYLOCOCCUS AUREUS	9-64								
PIPA50_SHIFL	ISOMERASE LACA SUBUNIT	STREPTOCOCCUS MUTANS	26-60								
PIPA51_SHIFL	TAGATOSE-6-PHOSPHATE KINASE	STREPTOCOCCUS MUTANS	56-83	283-310							
PIPA52_SHIFL	6-PHOSPHO-BETA-GALACTOSIDASE	LACTOBACILLUS CASEI	290-317								
PIPA53_SHIFL	LACTOSE OPERON REPRESSOR	ESCHERICHIA COLI	9-36								
PIPA54_SHIFL	LACTOSE OPERON REPRESSOR	KLBSIELLA PNEUMONIAE	195-229								
PIPA55_SHIFL	PHOSPHOTRANSFERASE REPRESSOR	STAPHYLOCOCCUS AUREUS	2-29								
PIPA56_SHIFL	PHOSPHOTRANSFERASE REPRESSOR	STREPTOCOCCUS MUTANS	2-32								
PIPA57_SHIFL	LACTOSE PERMEASE	LACTOBACILLUS DELBRUECKII	196-230								
PIPA58_SHIFL	FLAGELLAR HOOK-ASSOCIATED PROTEIN 2	VIBRIO PARAHAEEMOLYTICUS	62-89	388-415							
PIPA59_SHIFL	MALTOPIRIN PRECURSOR	KLBSIELLA PNEUMONIAE	337-364								
PIPA60_SHIFL	ENDO-1,3(4)-BETA-GLUCANASE PRECURSOR	CLOSTRIDIUM THERMOCILLUM	132-159								
PIPA61_SHIFL	OHRL SYNTHESIS PROTEIN LASI	PSEUDOMONAS AERUGINOSA	171-198								
PIPA62_SHIFL	PROBABLE LEUCOCYTOXIN IMMUNITY PROTEIN	LEUCONOSTOC GELIDUM	41-71								
PIPA63_SHIFL	LACTOCOCCIN A SECRETION PROTEIN LONG	LACTOCOCCUS LACTIS	162-189	207-234	388-433						

PCGENE	1071178.4	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILENAME	PROTEIN	ORGANISM									
PLCND_LACLA	LACTOCOCCIN A SECRETION PROTEIN LCND	LACTOCOCCUS LACTIS	99-126	140-202	237-307						
PLCRD_YEREN	LOW CALCIUM RESPONSE LOCUS PROTEIN D	YERSINIA ENTEROCOLITICA	122-149	491-518							
PLCRD_YERPE	LOW CALCIUM RESPONSE LOCUS PROTEIN D	YERSINIA PESTIS	122-149	491-518							
PLCKV_YERPE	VRULANCE-ASSOCIATED V ANTIGEN	YERSINIA PESTIS	22-49	157-184	240-267						
PLCKV_YERPS	VRULANCE-ASSOCIATED V ANTIGEN	YERSINIA PSEUDOTUBERCULOSIS	22-49	240-267							
PLCTB_BACCA	LCTB PROTEIN	BACILLUS CALDOTENAX	18-45								
PLCTB_BACST	LCTB PROTEIN	BACILLUS STEAROTHERIOPHILUS	14-45								
PLDID_LACPL	D-LACTATE DEHYDROGENASE	LACTOBACILLUS PLANTARUM	51-81								
PLDHP_BACPS	L-LACTATE DEHYDROGENASE P	BACILLUS PSYCHROSACCHAROLYTICUS	2-43	241-272	279-306						
PLDHP_BACPS	L-LACTATE DEHYDROGENASE X	BACILLUS PSYCHROSACCHAROLYTICUS	2-43	241-272	279-306						
PLDHP_BACME	L-LACTATE DEHYDROGENASE	BACILLUS MEGATERIUM	244-274								
PLDHP_BACST	L-LACTATE DEHYDROGENASE	BACILLUS STEAROTHERIOPHILUS	241-268	279-313							
PLDHP_BACSU	L-LACTATE DEHYDROGENASE	BACILLUS SUBTILIS	8-42	240-267							
PLDHP_BIFLO	L-LACTATE DEHYDROGENASE	BIFIDOBACTERIUM LONGUM	22-49								
PLDHP_LACPL	L-LACTATE DEHYDROGENASE	LACTOBACILLUS PLANTARUM	197-231								
PLDHP_LISMO	L-LACTATE DEHYDROGENASE	LISTERIA MONOCYTOGENES	42-69								
PLDHP_MYCHY	L-LACTATE DEHYDROGENASE	MYCOPLASMA HYOPNEUMONIAE	276-310								
PLDHP_THAQ	L-LACTATE DEHYDROGENASE	THERMUS AQUATICUS	3-30								
PLEF_BACAN	LETHAL FACTOR PRECURSOR	BACILLUS ANTHRACIS	165-192	304-331	480-514	548-578	619-658	737-764			
PLEPA_PSEFL	LEPA PROTEIN	PSEUDOMONAS FLUORESCENS	23-30								
PLEP_BACSU	SIGNAL PEPTIDASE I	BACILLUS SUBTILIS	3-30								
PLEUJ_ECOLI	2-ISOPROPYLMALATE SYNTHASE	ESCHERICHIA COLI	437-464								
PLEUJ_LACLA	2-ISOPROPYLMALATE SYNTHASE	LACTOCOCCUS LACTIS	22-49	379-484							
PLEUJ_BACCO	3-ISOPROPYLMALATE DEHYDROGENASE	BACILLUS COAGULANS	331-358								
PLEUJ_CLOPA	3-ISOPROPYLMALATE DEHYDROGENASE	CLOSTRIDIUM PASTEURIANUM	183-212								
PLEUJ_LACLA	3-ISOPROPYLMALATE DEHYDRATASE	LACTOCOCCUS LACTIS	163-190								
PLEVR_BACSU	TRANSCRIPTIONAL REGULATORY PROTEIN LEVR	BACILLUS SUBTILIS	297-324	676-703	744-774	785-822					
PLEXA_ERWCA	LEXA REPRESSOR	ERWINIA CAROTOVORA	146-173								
PLIPT_MORSP	LIPASE 1	MORAXELLA SP	26-53								
PLIPT_MORSP	LIPASE 2	MORAXELLA SP	356-383								
PLIPB_ECOLI	LIPB PROTEIN	ESCHERICHIA COLI	66-93								
PLIPB_BURCE	LIPASE PRECURSOR	BURKHOLDERIA CEPACIA	176-203								
PLIP_PSEFL	LIPASE PRECURSOR	PSEUDOMONAS FLUORESCENS	8-35								
PLIP_PSESS	LIPASE PRECURSOR	PSEUDOMONAS SP	176-203								
PLIP_STAAU	LIPASE PRECURSOR	STAPHYLOCOCCUS AUREUS	80-146	512-546							
PLIVB_SALTY	LEU/LEVAL/THR-BINDING PROTEIN PRECURSOR	SALMONELLA TYPHIMURIUM	193-220								
PLIVC_SALTY	LEUCINE-SPECIFIC BINDING PROTEIN PRECURSOR	SALMONELLA TYPHIMURIUM	195-222								
PLIVE_SALTY	AMINO ACID TRANSPORT PROTEIN LIVE	SALMONELLA TYPHIMURIUM	121-148								
PLIVF_ECOLI	AMINO ACID TRANSPORT PROTEIN LIVF	ESCHERICHIA COLI	23-50								
PLIVJ_CITFR	LEU/LEVAL-BINDING PROTEIN PRECURSOR	CITROBACTER FREUNDII	195-222								
PLIVJ_ECOLI	LEU/LEVAL-BINDING PROTEIN PRECURSOR	ESCHERICHIA COLI	195-222								
PLIVK_ECOLI	LEUCINE-SPECIFIC BINDING PROTEIN PRECURSOR	ESCHERICHIA COLI	195-222								
PLIVM_ECOLI	AMINO ACID TRANSPORT PROTEIN LIVM	ESCHERICHIA COLI	121-148								
PLKTA_ACTAC	LEUKOTOXIN	ACTINOBACILLUS ACTINOMYCETEMCOMITANS	113-147	173-213	398-443	451-488	593-620	655-711			
PLKTA_PASHA	LEUKOTOXIN	PASTURELLA HAEMOLYTICA	53-99	179-216	345-372	409-436	455-482	496-530	545-572	811-838	853-926
PLKTB_ACTAC	LEUKOTOXIN SECRETION PROTEIN	ACTINOBACILLUS ACTINOMYCETEMCOMITANS	487-514								
PLKTB_PASHA	LEUKOTOXIN SECRETION PROTEIN	PASTURELLA HAEMOLYTICA	42-69	78-105	488-515						
PLKTC_ACTAC	LTC PROTEIN	ACTINOBACILLUS ACTINOMYCETEMCOMITANS	58-85	116-150							
PLKTC_PASHA	LKTC PROTEIN	PASTURELLA HAEMOLYTICA	123-157								
PLKTD_ACTAC	LKTD PROTEIN	ACTINOBACILLUS ACTINOMYCETEMCOMITANS	116-164	205-242	278-305	384-391					
PLKTD_PASHA	LKTD PROTEIN	PASTURELLA HAEMOLYTICA	184-289								
PLON_ECOLI	ATP-DEPENDENT PROTEASE LA	ESCHERICHIA COLI	121-148								
PLPXA_RUCRI	UDP-N-ACETYLGLUCOSAMINE ACYL TRANSFERASE	RICKETTSIA RICKETTSII	229-256								
PLSPA_ECOLI	LIPOPROTEIN SIGNAL PEPTIDASE	ESCHERICHIA COLI	10-37								
PLSPA_STAAU	LIPOPROTEIN SIGNAL PEPTIDASE	STAPHYLOCOCCUS AUREUS	134-161								
PLIKF_STAAU	LEUKOTOXIN F SUBUNIT PRECURSOR	STAPHYLOCOCCUS AUREUS	161-195								
PLIKS_STAAU	LEUKOTOXIN S SUBUNIT PRECURSOR	STAPHYLOCOCCUS AUREUS	157-207								

PCGENE	1071784	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PLUXA_KRYAL	ALKANAL MONOOXYGENASE ALPHA CHAIN	KRYPTOPHANARON ALFREDI	190-217								
PLUXB_PHOPO	ALKANAL MONOOXYGENASE BETA CHAIN	PHOTOBACTERIUM PHOSPHOREUM	188-217	257-291							
PLUXC_VIBHA	ALKANAL MONOOXYGENASE BETA CHAIN	VIBRIO HARVEYI	373-400								
PLUXD_PHOLE	ACYL-COA REDUCTASE	PHOTOBACTERIUM LEIOGNATHI	44-81								
PLUXE_PHOPO	ACYL-COA REDUCTASE	PHOTOBACTERIUM PHOSPHOREUM	54-91								
PLUXF_VIBFI	ACYL-COA REDUCTASE	VIBRIO FISCHERI	16-63								
PLUXG_XENLU	ACYL-COA REDUCTASE	XENORHABDUS LUMINESCENS	39-69								
PLUXH_PHOLE	ACYL TRANSFERASE	PHOTOBACTERIUM LEIOGNATHI	89-119	218-245							
PLUXI_VIBHA	LUCIFERIN-COMPONENT LIGASE	VIBRIO HARVEYI	30-57								
PLUXJ_PHOLE	NON-FLUORESCENT FLAVOPROTEIN	PHOTOBACTERIUM LEIOGNATHI	145-172								
PLUXK_PHOPO	NON-FLUORESCENT FLAVOPROTEIN	PHOTOBACTERIUM PHOSPHOREUM	37-85	99-126							
PLUXL_VIBFI	PROBABLE FLAVIN REDUCTASE	VIBRIO FISCHERI	137-168								
PLUXM_VIBHA	LUXH PROTEIN	VIBRIO HARVEYI	96-123								
PLUXN_VIBFI	OHHL SYNTHESIS PROTEIN LUXI	VIBRIO FISCHERI	30-38								
PLUXO_VIBFI	OHHL SYNTHESIS PROTEIN LUXI	VIBRIO FISCHERI	30-37								
PLUXP_PHOPO	LUMAZINE PROTEIN	PHOTOBACTERIUM PHOSPHOREUM	51-85	162-189							
PLUXQ_VIBHA	LUXR REGULATORY PROTEIN	VIBRIO HARVEYI	61-88								
PLUXR_PHOLE	ALKANAL MONOOXYGENASE BETA CHAIN	PHOTOBACTERIUM LEIOGNATHI	268-295								
PLUXS_PHOLE	ALKANAL MONOOXYGENASE BETA CHAIN	PHOTOBACTERIUM LEIOGNATHI	228-255								
PLUXT_BACSU	B-ENZYME	BACILLUS SUBTILIS	87-114								
PLUXU_CLOAB	AUTOLYTIC LYSOZYME	CLOSTRIDIUM ACETOBUTYLICUM	91-118								
PLUXV_ECOLI	LYSINE-SPECIFIC PERMEASE	ESCHERICHIA COLI	142-176								
PLUXW_BACSU	AMIDASE ENHANCER PRECURSOR	BACILLUS SUBTILIS	55-82	150-177	467-513	555-585					
PLUXX_ECOLI	LYTB PROTEIN	ESCHERICHIA COLI	210-237								
PLUXY_BACSU	AMIDASE PRECURSOR	BACILLUS SUBTILIS	179-213	225-252							
PLUXZ_STRPY	MEMBRANE-BOUND PROTEIN LYTR	BACILLUS SUBTILIS	13-64	259-303							
PM12_STRPY	M PROTEIN, SEROTYPE 12 PRECURSOR	STREPTOCOCCUS PYOGENES	46-92	114-156	191-300	305-342	383-417	436-494			
PM13_STRPY	M PROTEIN, SEROTYPE 24 PRECURSOR	STREPTOCOCCUS PYOGENES	12-46	89-128	175-202	245-272	280-313	399-457			
PM14_STRPY	M PROTEIN, SEROTYPE 49 PRECURSOR	STREPTOCOCCUS PYOGENES	12-174	269-327							
PM15_STRPY	M PROTEIN, SEROTYPE 5 PRECURSOR	STREPTOCOCCUS PYOGENES	5-39	56-263	306-333	352-410					
PM16_STRPY	M PROTEIN, SEROTYPE 6 PRECURSOR	STREPTOCOCCUS PYOGENES	12-39	70-282	290-324	343-401					
PM17_ECOLI	MALTOSE-BINDING PROTEIN PRECURSOR	ESCHERICHIA COLI	20-47								
PM18_ECOLI	MALTOSE-BINDING PROTEIN PRECURSOR	ENTEROBACTER AEROGENES	20-47								
PM19_ECOLI	INNER MEMBRANE PROTEIN MALK	ENTEROBACTER AEROGENES	3-30								
PM20_ECOLI	MALT REGULATORY PROTEIN	ESCHERICHIA COLI	852-879								
PM21_STRPN	MALX PROTEIN PRECURSOR	STREPTOCOCCUS PNEUMONIAE	40-67	180-207							
PM22_BACSM	1,4-BETA-MANNOSIDASE A AND B PREC	BACILLUS SP	410-441								
PM23_CALSA	B-MANNANASE/DOGLUCANASE A PREC	CALDOCCELLUM SACCHAROLYTICUM	389-423	592-626	1222-1256	1296-1323					
PM24_BACST	MALATE OXIDOREDUCTASE	BACILLUS STEAROTIERNOPHILUS	246-273								
PM25_ECOLI	ANTIBIOTIC RESISTANCE PROTEIN MARR	ESCHERICHIA COLI	95-122								
PM26_ECOLI	Mobilization Protein MBEB	ESCHERICHIA COLI	38-65	100-134							
PM27_ECOLI	QUINONE:RAC NITE-HYDROGENASE	WOLINELLA SUCCINOGENES	440-471								
PM28_ECOLI	MCBB PROTEIN	ESCHERICHIA COLI	47-74	122-163							
PM29_ECOLI	MCBD PROTEIN	ESCHERICHIA COLI	172-206	226-253	306-345						
PM30_ECOLI	METHYL-ACCEPTING CHEMOTAXIS PROTEIN I	ESCHERICHIA COLI	272-299								
PM31_ECOLI	METHYL-ACCEPTING CHEMOTAXIS PROTEIN II	ESCHERICHIA COLI	258-306								
PM32_ECOLI	METHYL-ACCEPTING CHEMOTAXIS PROTEIN II	SALMONELLA TYPHIMURUM	258-306								
PM33_ECOLI	METHYL-ACCEPTING CHEMOTAXIS PROTEIN III	ESCHERICHIA COLI	288-315								
PM34_ECOLI	METHYL-ACCEPTING CHEMOTAXIS PROTEIN IV	ESCHERICHIA COLI	111-145	164-191	277-304						
PM35_CAIOR	CHEMORECEPTOR MCPA	CAULOBACTER CRESCENTUS	260-287	369-403	516-543						
PM36_SALTY	CHEMOTAXIS CITRATE TRANSDUCER	SALMONELLA TYPHIMURUM	314-348								
PM37_ECOLI	CHEMOTAXIS ASPARTATE TRANSDUCER	ENTEROBACTER AEROGENES	275-302								
PM38_ECOLI	CHEMOTAXIS SERINE TRANSDUCER	ENTEROBACTER AEROGENES	41-68	158-208	317-351	488-522					
PM39_ECOLI	SPECIFIC RESTRICTION ENZYME A	ESCHERICHIA COLI	37-71								
PM40_ECOLI	METHYL-COENZYME M REDUCTASE	METHANOSARCINA BARKER	375-405								
PM41_ECOLI	METHYL-COENZYME M REDUCTASE	METHANOCOCCUS VANNIELII	335-362								
PM42_ECOLI	METHYL-COENZYME M REDUCTASE	METHANOCOCCUS VOLTAE	336-363								

PCGENE	1071781d	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILE NAME	PROTEIN	ORGANISM									
PMCRB_METFE	METHYL-COENZYME M REDUCTASE	METHANOTHERMUS FERVIDUS	267-294								
PMCRB_METVO	METHYL-COENZYME M REDUCTASE	METHANOCOCCUS VOLTAE	247-274								
PMCRB_ECOLI	MCRG PROTEIN	ESCHERICHIA COLI	111-145								
PMCRD_METVO	REDUCTASE OPERON PROTEIN D	METHANOCOCCUS VOLTAE	54-91								
PMNDH_ECOLI	MALATE DEHYDROGENASE	ESCHERICHIA COLI	127-154								
PMNDH_METFE	MALATE DEHYDROGENASE	METHANOTHERMUS FERVIDUS	54-88								
PMNDH_SALTY	MALATE DEHYDROGENASE	SALMONELLA TYPHIMURIUM	127-154								
PMNDL_ECOLI	MDL PROTEIN	ESCHERICHIA COLI	464-491	684-711	992-1019						
PMNDH_ECOLI	BIOSYNTHESIS PROTEIN MDOH	ESCHERICHIA COLI	119-152								
PMECI_STAEP	METHICILLIN RESIS REG PROTEIN MECI	STAPHYLOCOCCUS	88-122								
PMECR_STAEP	METHICILLIN RESISTANCE MECRI PROTEIN	EPIDERMIDIS & AUREUS	439-495	546-573							
PMEMB_METCA	METHANE MONOOXYGENASE COMPONENT A	METHYLOCOCCUS CAPSULATUS	214-248								
PMEMB_METTH	METHANE MONOOXYGENASE COMPONENT A	METHYLOSINUS TRICHOSPORIUM	321-348								
PMEND_ECOLI	SHHC SYNTHASE	ESCHERICHIA COLI	333-367								
PMER4_STRLI	PROBABLE HG TRANSPORT PROTEIN	STREPTOMYCES LIVIDANS	159-186								
PMERA_BACSR	MERCURIC REDUCTASE	BACILLUS SP	146-180								
PMERA_STAAR	MERCURIC REDUCTASE	STAPHYLOCOCCUS AUREUS	292-347	352-386							
PMETB_ECOLI	CYSTATHIONINE GAMMA-SYNTHASE	ESCHERICHIA COLI	86-113								
PMETC_ECOLI	CYSTATHIONINE BETA-LYASE	ESCHERICHIA COLI	356-383								
PMETC_SALTY	CYSTATHIONINE BETA-LYASE	SALMONELLA TYPHIMURIUM	363-390								
PMETE_ECOLI	METHIONINE SYNTHASE	ESCHERICHIA COLI	2-29								
PMETH_ECOLI	METHIONINE SYNTHASE	ESCHERICHIA COLI	448-482								
PMFD_ECOLI	TRANSCRIPTION-REPAIR COUPLING FACTOR	ESCHERICHIA COLI	371-398	642-676							
PMGLA_ECOLI	GALACTOSIDE-BINDING PROTEIN	ESCHERICHIA COLI	185-212								
PMINC_BACSU	SEPTUM SITE-DETERMINING PROTEIN MNC	ESCHERICHIA COLI	62-89	312-380							
PMIOC_ECOLI	MIOC PROTEIN	BACILLUS SUBTILIS	65-122								
PMIP_CHLTR	27 KD MEMBRANE PROTEIN PRECURSOR	ESCHERICHIA COLI	102-129								
PMIP_LEGMI	OUTER MEMBRANE PROTEIN MIP PRECURSOR	CHLAMYDIA TRACHOMATIS	41-75								
PMLS1_ENTFA	RNA ADENINE N-6-METHYLTRANSFERASE	LEGIONELLA MICDADEI	106-133								
PMLS1_STAAR	RNA ADENINE N-6-METHYLTRANSFERASE	ENTEROCOCCUS FAECALIS	4-81	120-154							
PMLS2_ENTFA	RNA ADENINE N-6-METHYLTRANSFERASE	STAPHYLOCOCCUS AUREUS	9-47								
PMLSB_BACFR	RNA ADENINE N-6-METHYLTRANSFERASE	ENTEROCOCCUS FAECALIS	4-81	120-154							
PMLSB_ECOLI	RNA ADENINE N-6-METHYLTRANSFERASE	BACTEROIDES FRAGILIS	16-43								
PMLSB_STRPN	RNA ADENINE N-6-METHYLTRANSFERASE	ESCHERICHIA COLI	4-81	120-154							
PMLSB_STRSA	RNA ADENINE N-6-METHYLTRANSFERASE	STREPTOCOCCUS PNEUMONIAE	4-81	120-154							
PMISC_BACFR	RNA ADENINE N-6-METHYLTRANSFERASE	STREPTOCOCCUS SANGUIS	4-81	120-154							
PMN01_METC	METHANE MONOOXYGENASE REG PROTEIN II	BACTEROIDES FRAGILIS	16-43								
PMOAB_ECOLI	MOLYBD COFAC BIOSYN PROTEIN B	METHYLOCOCCUS CAPSULATUS	34-64								
PMOBA_THIFE	MOBA PROTEIN	ESCHERICHIA COLI	49-76								
PMOBC_THIFE	MOBC PROTEIN	THIOBACILLUS FERROOXIDANS	94-121	251-278							
PMOBD_THIFE	MOBD PROTEIN	THIOBACILLUS FERROOXIDANS	20-47								
PMOB_ECOLI	MOB PROTEIN	THIOBACILLUS FERROOXIDANS	95-132								
PMOE_ECOLI	MOLYBDOTERIN BIOSYNTHESIS MOEA PROTEIN	ESCHERICHIA COLI	45-72								
PMOPT_CLOPA	MOLYBDENUM-PTERIN BINDING PROTEIN I	ESCHERICHIA COLI	243-270								
PMOP2_CLOPA	MOLYBDENUM-PTERIN BINDING PROTEIN II	CLOSTRIDIUM PASTEURIANUM	26-53								
PMOXY_PARDP	METHANOL UTIL CONT PROTEIN MOXY	CLOSTRIDIUM PASTEURIANUM	26-64								
PMPEV_SYNDY	BILIN BIOSYNTHESIS PROTEIN MPEV	PARACOCCLUS DENITRIFICANS	200-234								
PMPEV_SYNDY	BILIN BIOSYNTHESIS PROTEIN MPEV	SYNECHOCOCCUS SP	307-314								
PMRA_ECOLI	MRA PROTEIN	SYNECHOCOCCUS SP	2-36	80-107	198-225						
PMRAY_BACSU	PENTAPEPTIDE-TRANSFERASE	ESCHERICHIA COLI	2-31	175-216							
PMREB_BACCE	ROD SHAPE-DETERMINING PROTEIN MREB	BACILLUS SUBTILIS	136-163								
PMREC_BACSU	ROD SHAPE-DETERMINING PROTEIN MREC	BACILLUS SUBTILIS	106-133	247-281							
PMRKB_KLEPN	CHAPERONE PROTEIN MRKB PRECURSOR	BACILLUS SUBTILIS	186-213								
PMRKC_KLEPN	MRKC PROTEIN PRECURSOR	KLEBSIELLA PNEUMONIAE	65-112								
			198-232								
			55-82	452-489	592-622						

PCGENE	1071784	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILE NAME	PROTEIN	ORGANISM									
PKRD_KLEPN	FIMBRIA ADHESIN PROTEIN PRECURSOR	KLEBSIELLA PNEUMONIAE	222-268								
PKRKE_KLEPN	MRKE PROTEIN	KLEBSIELLA PNEUMONIAE	193-220								
PWRP4_STRPY	FIBRINOGEN-7 IG-BINDING PROTEIN PRECURSOR	STREPTOCOCCUS PYOGENES	7-46	99-310							
PWRP_STRPY	MURAMIDASE-RELEASED PROTEIN PRECURSOR	STREPTOCOCCUS PYOGENES	75-102	130-177							
PNMBA_ECOLI	PROB ATP-BINDING TRANSPORT PROTEIN MSBA	ESCHERICHIA COLI	116-150	412-449							
PNMBA_STAEP	ERYTHROMYCIN RESISTANCE PROTEIN	STAPHYLOCOCCUS EPIDERMIDIS	174-223	323-350							
PNMVB_ECOLI	ACIDIC PROTEIN MSVB	ESCHERICHIA COLI	73-100								
PNM37_ECOLI	MODIFICATION METHYLASE ECOS7I	ESCHERICHIA COLI	250-284	474-544							
PNM1A1_ACICA	MODIFICATION METHYLASE ACCI	ACINETOBACTER CALCOACETICUS	503-540								
PNM1AB_SNP2	MODIFICATION METHYLASE AQU1 BETA SUBUNIT	SYNECHOCOCCUS SP	19-46								
PNM1B1_BREP	MODIFICATION METHYLASE BEPI	BREVIBACTERIUM EPIDERMIDIS	166-200	309-336							
PNM1B1_HERAU	MODIFICATION METHYLASE HGIBI	HERPETOSIPHON AURANTIACUS	281-308								
PNM1B2_BACAM	MODIFICATION METHYLASE BAMHII	BACILLUS AMYLOLIQUEFACIENS	35-62								
PNM1B3_BACAR	MODIFICATION METHYLASE BANIII	BACILLUS ANEURINOLYTICUS	184-211								
PNM1B4_BACAR	MODIFICATION METHYLASE BAN1	BACILLUS ANEURINOLYTICUS	121-148	382-409							
PNM1B5_BAGSU	MODIFICATION METHYLASE BSUBI	BACILLUS SUBTILIS	231-258	467-496							
PNM1B6_BAGSU	MODIFICATION METHYLASE BSUBI	BACILLUS SUBTILIS	208-235		252-279						
PNM1C1_CITFR	MODIFICATION METHYLASE CFRBI	CITROBACTER FREUNDII	2-36	55-82							
PNM1C1_HERAU	MODIFICATION METHYLASE HGICI	HERPETOSIPHON AURANTIACUS	120-147								
PNM1C2_HERAU	MODIFICATION METHYLASE HGICII	HERPETOSIPHON AURANTIACUS	281-311								
PNM1E1_ECOLI	MODIFICATION METHYLASE ECORI	ESCHERICHIA COLI	76-110	145-172							
PNM1E1_HERAU	MODIFICATION METHYLASE HGIEI	HERPETOSIPHON AURANTIACUS	281-308								
PNM1E2_ECOLI	MODIFICATION METHYLASE ECORII	ESCHERICHIA COLI	4-61								
PNM1E3_ECOLI	MODIFICATION METHYLASE ECO RV	ESCHERICHIA COLI	73-100								
PNM1E5_ECOLI	MODIFICATION METHYLASE ECAI	ENTEROBACTER CLOACAE	418-445								
PNM1E7_ENTCL	MODIFICATION METHYLASE FOKI	FLAYOBACTERIUM OKEANOKOITES	184-211	279-306	337-366	398-425	555-646				
PNM1F1_FLAOK	MODIFICATION METHYLASE FOKI	FLAYOBACTERIUM OKEANOKOITES	22-49								
PNM1F1_FUSNU	MODIFICATION METHYLASE FNUDI	FUSOBACTERIUM NUCLEATUM	135-165								
PNM1G2_HAEGA	MODIFICATION METHYLASE HGAI-2	HAEMOPHILUS GALLINARUM	181-208	399-426							
PNM1H2_HAEIN	MODIFICATION METHYLASE HINCII	HAEMOPHILUS INFLUENZAE	188-215	256-323							
PNM1H2_METTF	MODIFICATION METHYLASE MTHZI	METHANOBACTERIUM THERMOFORMICICUM	270-297								
PNM1K1_KLEPN	MODIFICATION METHYLASE KPNI	KLEBSIELLA PNEUMONIAE	39-66	224-238	349-376						
PNM1LD_STRAU	MANNITOL-1-PHOSPHATE 5-DEHYDROGENASE	STREPTOCOCCUS MUTANS	5-39	49-104							
PNM1M1_MORSP	MODIFICATION METHYLASE MSP1	MORAXELLA SP	124-158	183-210							
PNM1N1_NEILA	MODIFICATION METHYLASE NLAII	NEISSERIA LACTAMICA	308-335								
PNM1P2_PROVU	MODIFICATION METHYLASE PVU II	PROTEUS VULGARIS	9-67								
PNM1PG_SULAC	MEMBRANE-ASSOCIATED ATPASE	SULFOLOBUS ACIDOCALDARIUS	226-264								
PNM1PS_PROST	MODIFICATION METHYLASE PSTI	PROVIDENCIA STUARTII	80-107								
PNM1R1_ECOLI	TRYPTOPHAN-SPECIFIC TRANSPORT PROTEIN	ESCHERICHIA COLI	116-153	434-461	600-645						
PNM1S1_STRSA	MODIFICATION METHYLASE STSI	STREPTOCOCCUS SANGUIS	81-108								
PNM1S2_SHISO	MODIFICATION METHYLASE SSOII	SHIGELLA SONNEI	88-115	187-214							
PNM1S3_STAOU	MODIFICATION METHYLASE SAU96I	STAPHYLOCOCCUS AUREUS	233-274								
PNM1SA_LACLC	MODIFICATION METHYLASE SCRFI-A	LACTOCOCCUS LACTIS	27-61								
PNM1SB_LACLC	MODIFICATION METHYLASE SCRFI-B	LACTOCOCCUS LACTIS	188-230	256-290							
PNM1SI_SPSQ	CPG DNA METHYLASE	SPIROPLASMA SP	61-88								
PNM1SM_SERMA	MODIFICATION METHYLASE SMAI	SERRATIA MARCESCENS	120-157								
PNM1T8_THETH	MODIFICATION METHYLASE TTHB8I	THERMUS AQUATICUS	23-66								
PNM1V1_VIBS3	MODIFICATION METHYLASE VSP1	VIBRIO SP	320-381	1014-1048	1216-1232						
PMUKB_ECOLI	MUKB PROTEIN	ESCHERICHIA COLI	24-54								
PMULI_ERWAM	MAJOR OUTER MEMBRANE LIPOPROTEIN PREC	ERWINIA AMYLOVORA	27-54								
PMULI_MQIMQ	MAJOR OUTER MEMBRANE LIPOPROTEIN PREC	MORGANELA MORGANII	21-63								
PMULI_PROMI	MAJOR OUTER MEMBRANE LIPOPROTEIN PREC	PROTEUS MIRABILIS	107-134	299-326							
PMURD_BAPSU	UDP-LIGASE	BACILLUS SUBTILIS	407-437								
PMURE_ECOLI	LIGASE	ESCHERICHIA COLI	392-419								
PMURZ_ECOLI	UDP-MURNA-C-PENTAPEPTIDE SYNTHETASE	ESCHERICHIA COLI									
PMURZ_ECOLI	ENOYL-PYRUVATE TRANSFERASE	ESCHERICHIA COLI									
PMURZ_ENTCL	ENOYL-PYRUVATE TRANSFERASE	ENTEROBACTER CLOACAE									
PMUTA_STRCM	METHYLMALONYL-COA MUTASE BETA-SUBUNIT	STREPTOMYCES CINNAMONENSIS	31-58								

PCGENE	1071784	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PMUTB_PROF	METHYLMALONYL-COA MUTASE ALPHA-SUBUNIT	PROPIONIBACTERIUM FREUDENREICHII	549-576								
PMUTB_SALT	IG-SPECIFIC ADENINE GLYCOSYLASE	SALMONELLA TYPHIMURIUM	273-300								
PMUTB_STRCM	METHYLMALONYL-COA MUTASE ALPHA-SUBUNIT	STREPTOMYCES CINNAMONENSIS	481-508								
PMUTB_ECOLI	DNA MISMATCH REPAIR PROTEIN MUTL	ESCHERICHIA COLI	80-114								
PMUTL_SALT	DNA MISMATCH REPAIR PROTEIN MUTL	SALMONELLA TYPHIMURIUM	80-114								
PMUTL_VIBCH	PROTEIN MUTL	VIBRIO CHOLERAE	134-169								
PMUTS_ECOLI	DNA MISMATCH REPAIR PROTEIN MUTS	ESCHERICHIA COLI	119-153								
PMUTT_STRAM	MUTL-LIKE PROTEIN	STREPTOMYCES AMBOFACIENS	60-87								
PMVAA_PSEMV	COENZYME A REDUCTASE	PSEUDOMONAS MEVALONII	341-368								
PMX_STRYP	M-RELATED PROTEIN PRECURSOR	STREPTOCOCCUS PYOGENES	5-129	148-182	190-217	240-301					
PMYCO_STRCI	MYCOLYSIN PRECURSOR	STREPTOMYCES CACAIOI	300-352								
PMYFC_YEREN	MYFC PROTEIN PRECURSOR	YERSINIA ENTEROCOLITICA	210-237								
PMNDC_SALT	NICOTINATE-NUCLEOTIDE PYROPHOSPHORYLASE	SALMONELLA TYPHIMURIUM	123-154	255-289							
PNADR_SALT	TRANSCRIPTIONAL REGULATOR NADR	SALMONELLA TYPHIMURIUM	233-260								
PNAGD_ECOLI	NAGD PROTEIN	ESCHERICHIA COLI	75-102								
PNAGH_CLOPE	HYALURONOGUCOSAMINIDASE	CLOSTRIDIUM PERFRINGENS	48-75	990-1017							
PNAGR_ECOLI	NAGR PROTEIN	ESCHERICHIA COLI	119-153								
PNANH_CLOSO	SIALIDASE PRECURSOR	CLOSTRIDIUM SEPTICUM	11-42	289-330	922-988						
PNANH_SALT	SIALIDASE	CLOSTRIDIUM SEPTICUM	377-404								
PNAPF_ENTHR	NA(+)-PH(+) ANTIporter	SALMONELLA TYPHIMURIUM	290-317								
PNAPG_ECOLI	RESPIRATORY NITRATE REDUCTASE ALPHA CHAIN	ENTEROCOCCUS HIRAE	116-150								
PNARP_ECOLI	REGULATOR PROTEIN NARP	ESCHERICHIA COLI	386-420								
PNARX_ECOLI	NITRATE/NITRITE SENSOR PROTEIN NARX	ESCHERICHIA COLI	76-103								
PNBVA_RHME	BETA(1->3)GLUCAN EXPORT PROTEIN	ESCHERICHIA COLI	155-189								
PNBQR_STRCY	NEOMYCIN RESISTANCE PROTEIN	RHIZOBIUM MELILOTI	220-247	358-385	431-458	505-538					
PNBQA_ECOLI	ACYLNEURAMINATE CYTIDYL TRANSFERASE	STREPTOMYCES CYANOGENUS	212-239								
PNBFB_ECOLI	NA ADSORPTION PROTEIN B	ESCHERICHIA COLI	348-375								
PNBFC_ECOLI	NA ADSORPTION PROTEIN C	ESCHERICHIA COLI	218-252	268-298							
PNBFI_ENTGL	NADPH NITROREDUCTASE	ESCHERICHIA COLI	490-517								
PNBHA_ECOLI	NA(+)-PH(+) ANTIporter 1	ESCHERICHIA COLI	2-43	186-220	511-538						
PNBHB_ECOLI	NA(+)-PH(+) ANTIporter 2	ESCHERICHIA COLI	315-342								
PNBIB_PSECL	NITRILE HYDRATASE SUBUNIT BETA	ENTEROBACTER CLOACAE	9-36								
PNBIB_RHORH	NITRILE HYDRATASE SUBUNIT BETA	ESCHERICHIA COLI	206-233								
PNBIA_AZOB	NIF-SPECIFIC REGULATORY PROTEIN	ESCHERICHIA COLI	271-305								
PNBIA_BRAJA	NIF-SPECIFIC REGULATORY PROTEIN	PSEUDOMONAS CHLORORAPHIS	71-101								
PNBIA_HERSE	NIF-SPECIFIC REGULATORY PROTEIN	RHODOCOCUS RHODOCHROUS	63-93								
PNBIA_RHILE	NIF-SPECIFIC REGULATORY PROTEIN	AZOSPIRILLUM BRASILENSE	7-44								
PNBIA_RHIME	NIF-SPECIFIC REGULATORY PROTEIN	BRADYRHIZOBIUM JAPONICUM	232-279								
PNBIA_RIOCA	NIF-SPECIFIC REGULATORY PROTEIN	HERBASPIRILLUM SEROTYFICAE	9-51	162-203	327-354						
PNBIB_AZOV1	NIFB PROTEIN	RHIZOBIUM MELILOTI	100-127								
PNBIB_KLEPN	NIFB PROTEIN	RHODOBACTER CAPSULATUS	171-198								
PNBID_ANASP	NITROGENASE IRON PROTEIN	AZOTOBACTER VINELANDII	260-287								
PNBID_AZOB	NITROGENASE IRON PROTEIN	KLBSIELLA PNEUMONIAE	342-369								
PNBID_PLEBO	NITROGENASE IRON PROTEIN	ANABAENA SP	154-181								
PNBID_THIFE	NITROGENASE IRON PROTEIN	AZOSPIRILLUM BRASILENSE	374-401								
PNBIF_CLOPA	BIOSYNTHESIS PROTEIN NIFE	PLECTONEMA BORYANUM	377-404								
PNBIF_FRAR	NITROGENASE IRON PROTEIN	PLECTONEMA BORYANUM	387-414								
PNBIF_PLEAO	NITROGENASE IRON PROTEIN	BRADYRHIZOBIUM JAPONICUM	383-410								
PNBIF_AZOB	NITROGENASE IRON PROTEIN	BRADYRHIZOBIUM SP	359-386								
PNBIF_BRNA	NITROGENASE IRON PROTEIN	THIOBACILLUS FERROOXIDANS	56-83								
PNBIF_BRASP	NITROGENASE IRON PROTEIN	PLECTONEMA BORYANUM	267-294								
PNBIF_CLOPA	NITROGENASE IRON PROTEIN	BRADYRHIZOBIUM JAPONICUM	430-457								
PNBIF_THIFE	NITROGENASE IRON PROTEIN	BRADYRHIZOBIUM SP	483-510								
PNBIF_AZOB	NITROGENASE IRON PROTEIN	BRADYRHIZOBIUM SP	478-505								
PNBIF_THIFE	NITROGENASE IRON PROTEIN	THIOBACILLUS FERROOXIDANS	227-254								
PNBIF_AZOB	NITROGENASE IRON PROTEIN	THIOBACILLUS FERROOXIDANS	479-506								
PNBIF_AZOB	NITROGENASE IRON PROTEIN	THIOBACILLUS FERROOXIDANS	265-292								

PCGENE	1071/7814	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILE NAME	PROTEIN	ORGANISM	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
PPBP4_BACSU	PENICILLIN-BINDING PROTEIN 4*	BACILLUS SUBTILIS	374-401								
PPBP4_ECOLI	PENICILLIN-BINDING PROTEIN 4 PRECURSOR	ESCHERICHIA COLI	316-363								
PPBP4_ECOLI	PENICILLIN-BINDING PROTEIN 1A	ESCHERICHIA COLI	145-172								
PPBPB_ECOLI	PENICILLIN-BINDING PROTEIN 1B	ESCHERICHIA COLI	62-96	263-290							
PPBPX_STRPN	PENICILLIN-BINDING PROTEIN 2X	STREPTOCOCCUS PNEUMONIAE	89-116	706-733							
PPBP STAAU	PENICILLIN-BINDING PROTEIN	STAPHYLOCOCCUS AUREUS	78-108	176-203	261-324	302-329					
PPCAB_PSEPU	CYCLOISOMERASE	PSEUDOMONAS PUTIDA	115-142	226-253							
PEL1_ERWCA	PECTATE LYASE III PRECURSOR	ERWINIA CAROTOVORA	110-137								
PEL1_ERWCA	PECTATE LYASE A PRECURSOR	ERWINIA CAROTOVORA	110-137								
PEL1_ERWCA	PECTATE LYASE B PRECURSOR	ERWINIA CAROTOVORA	110-137								
PEL1_ERWCA	PECTATE LYASE C PRECURSOR	ERWINIA CAROTOVORA	110-137								
PEL1_ERWCH	PECTATE LYASE E PRECURSOR	ERWINIA CHRYSANTHEMI	40-67	209-243							
PEL1_ERWCA	PERIPLASMIC PECTATE LYASE PRECURSOR	ERWINIA CAROTOVORA	455-482								
PEL1_ERWCA	PERIPLASMIC PECTATE LYASE PRECURSOR	YERSINIA PSEUDOTUBERCULOSIS	459-489								
PEL1_ERWCA	PUTATIVE PECTATE LYASE X PRECURSOR	ERWINIA CAROTOVORA	188-218								
PEL1_ERWCH	EXOPOLYGALACTURONATE LYASE PRECURSOR	ERWINIA CHRYSANTHEMI	466-493								
PEPD_ECOLI	AMINOACYL-HISTIDINE DIPEPTIDASE	ESCHERICHIA COLI	264-314								
PEPQ_ECOLI	X-PRO DIPEPTIDASE	ESCHERICHIA COLI	251-278								
PERT_BORBR	PERTACTIN PRECURSOR	BORDETTELLA BRONCHISEPTICA	617-644								
PERT_BORPA	PERTACTIN PRECURSOR	BORDETTELLA PARAPERTUSSIS	628-655								
PERT_BORPE	PERTACTIN PRECURSOR	BORDETTELLA PERTUSSIS	616-643								
PPCK_CORGL	PHOSPHOGLYCERATE KINASE	CORYNEBACTERIUM GLUTINICUM	81-117								
PPCK_ECOLI	PHOSPHOGLYCERATE KINASE	ESCHERICHIA COLI	186-216								
PPCK_METBR	PHOSPHOGLYCERATE KINASE	METHANOBACTERIUM BRYANTII	36-63								
PPCK_THETH	PHOSPHOGLYCERATE KINASE	THERMUS AQUATICUS	222-249								
PPGL1_ERWCA	ENDO-POLYGALACTURONASE PRECURSOR	ERWINIA CAROTOVORA	217-271								
PPGTE_SALTY	OUTER MEMBRANE PROTEASE E PRECURSOR	SALMONELLA TYPHIMURUM	66-93								
PPH11_FREDI	C-PHYCOCYANIN-1 ALPHA CHAIN	FREMYELLA DIPLOSIPHON	21-48								
PPH2_FREDI	C-PHYCOCYANIN-2 ALPHA CHAIN	FREMYELLA DIPLOSIPHON	21-48								
PPH2_PSEOL	POLY(G-HYDROXYALKANOATE) POLYMERASE 1	PSEUDOMONAS OLEOVORANS	264-291								
PPHAB_ANACY	ALLOPHYCOCYANIN BETA CHAIN	ANABAENA CYLINDRICA	7-48								
PPHAB_ANAVA	ALLOPHYCOCYANIN BETA CHAIN	ANABAENA VARIABILIS	14-48								
PPHAB_FREDI	ALLOPHYCOCYANIN BETA CHAIN	FREMYELLA DIPLOSIPHON	8-49								
PPHAB_MASLA	ALLOPHYCOCYANIN BETA CHAIN	MASTIGOCALDUS LAMINOSUS	14-41								
PPHAB_SYN6	ALLOPHYCOCYANIN BETA CHAIN	SYNECHOCOCCUS SP	14-41								
PPHAC_SYN6	ALLOPHYCOCYANIN ALPHA-B CHAIN	SYNECHOCOCCUS SP	33-60								
PPHAB_FREDI	ALLOPHYCOCYANIN GAMMA CHAIN	FREMYELLA DIPLOSIPHON	32-59								
PPHBB_FREDI	C-PHYCOCYANIN-3 BETA CHAIN	FREMYELLA DIPLOSIPHON	29-56								
PPHBB_ALCEU	ACETOACETYL-COA REDUCTASE	ALCALIGENES EUTROPHUS	55-85								
PPHCA_SYNY1	C-PHYCOCYANIN ALPHA CHAIN	SYNECHOCYSTIS SP	21-55								
PPHCB_SYN6	C-PHYCOCYANIN BETA CHAIN	SYNECHOCOCCUS SP	28-55								
PPHCB_SYN7	C-PHYCOCYANIN BETA CHAIN	SYNECHOCOCCUS SP	28-55								
PPHCB_SYNY1	C-PHYCOCYANIN BETA CHAIN	SYNECHOCYSTIS SP	21-55								
PPHCA_ECOLI	CHROMISMATE MUTASE	ESCHERICHIA COLI	10-37								
PPHCA_ERWHE	CHROMISMATE MUTASE	ERWINIA HERBICOLA	10-37	159-186	252-286						
PPHCA_PESP	PHENOL 2-MONOXYGENASE	PSEUDOMONAS SP	171-201	282-314	437-464						
PPHCB_PESP	PHYCOERYTHROCYANIN BETA CHAIN	MASTIGOCALDUS LAMINOSUS	21-62								
PPHCB_PESP	CATECHOL 1,2-DIOXYGENASE	PSEUDOMONAS SP	24-51								
PPHCB_PESP	LINKER POLYPEPTIDE	SYNECHOCOCCUS SP	158-185								
PPHCB_PESP	PHENYLALANINE-SPECIFIC PERMEASE	ESCHERICHIA COLI	284-311								
PPHCB_PESP	PERIPLASMIC [FE] HYDROGENASE 1	GLOSTRIDIUM PASTERIANUM	434-471								
PPH11_BACCE	SPHINGOMYELINASE C PRECURSOR	BACILLUS CEREUS	2-36								
PPH11_BACCE	SPHINGOMYELINASE C PRECURSOR	BACILLUS CEREUS	2-36								
PPH11_BACCE	SPHINGOMYELINASE C PRECURSOR	BACILLUS CEREUS	2-36								
PPH11_BACCE	PHOSPHOLIPASE C PRECURSOR	BACILLUS CEREUS	32-59	179-206							
PPH11_CLOBI	PHOSPHOLIPASE C PRECURSOR	CLOSTRIDIUM BIFERMENTANS	50-77	335-365							
PPH11_CLOPE	PHOSPHOLIPASE C PRECURSOR	CLOSTRIDIUM PERFRINGENS	210-237	369-398							

PCGENE	1071784	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PPHLC_LISMO	PHOSPHOLIPASE C PRECURSOR	LISTERIA MONOCYTOGENES	147-174								
PPHLC_PSEAE	HEMOLYTIC PHOSPHOLIPASE C PRECURSOR	PSEUDOMONAS AERUGINOSA	685-712								
PPHLC_STAAU	PHOSPHOLIPASE C PRECURSOR	STAPHYLOCOCCUS AUREUS	16-33								
PPHLD_BACCE	PHOSPHOLIPASE C PRECURSOR	BACILLUS CEREUS	179-206								
PPHLE_LPIN	SPHINGOMYELINASE C PRECURSOR	LEPTOSPIRA INTERROGANS	30-57	394-428							
PPHND_ECOLI	PHND PROTEIN	ESCHERICHIA COLI	296-326								
PPHND_ECOLI	PHND PROTEIN	ESCHERICHIA COLI	178-205								
PPHNM_ECOLI	PHNM PROTEIN	ESCHERICHIA COLI	5-35								
PPHNE_CITFR	OUTER MEMBRANE PORE PROTEIN E PRECURSOR	CITROBACTER FREUNDII	13-40	47-105							
PPHNE_ECOLI	OUTER MEMBRANE PORE PROTEIN E PRECURSOR	ESCHERICHIA COLI	13-40	64-105	168-195	226-233					
PPHNE_KLEOX	OUTER MEMBRANE PORE PROTEIN E PRECURSOR	KLEBSIELLA OXYTOCA	13-40	64-91							
PPHNE_KLEPN	OUTER MEMBRANE PORE PROTEIN E PRECURSOR	KLEBSIELLA PNEUMONIAE	13-40	64-105							
PPHNE_SALTY	OUTER MEMBRANE PORE PROTEIN E PRECURSOR	SALMONELLA TYPHIMURIUM	61-104	320-347							
PPHOP_BACSU	ALK PHOS SYNTHESIS TRANS REG PROTEIN	BACILLUS SUBTILIS	185-219								
PPHOO_ECOLI	SENSOR PROTEIN PHOQ	ESCHERICHIA COLI	244-278								
PPHOO_SALTY	VRULENCE SENSOR PROTEIN PHOQ	SALMONELLA TYPHIMURIUM	226-260								
PPHOR_BACSU	ALK PHOS SYNTHESIS SENSOR PROTEIN PHOR	BACILLUS SUBTILIS	89-145	387-425							
PPHRA_ECOLI	PHOTOREPAIR PROTEIN PHRA	ESCHERICHIA COLI	61-90	207-241							
PPHRA_SYNPZ	R-PHYCOCYANIN II ALPHA CHAIN	SYNECHOCOCCUS SP	20-47								
PPHRA_SYNPZ	R-PHYCOCYANIN II ALPHA CHAIN	SYNECHOCOCCUS SP	20-47								
PPHSG_ECOLI	GLYCOCEN PHOSPHORYLASE	ESCHERICHIA COLI	157-184	488-515							
PPHSM_ECOLI	MALTODEXTRIN PHOSPHORYLASE	ESCHERICHIA COLI	71-108								
PPHIL_PSEAE	FINBRIAL ASSEMBLY PROTEIN PILB	NEISSERIA GONORRHOEA	17-68								
PPHIL_PSEAE	PILC PROTEIN	PSEUDOMONAS AERUGINOSA	16-60								
PPILD_NEIGO	LEADER PEPTIDASE	PSEUDOMONAS AERUGINOSA	143-170								
PPILO_PSEAE	FINBRIAL ASSEMBLY PROTEIN PILQ PRECURSOR	NEISSERIA GONORRHOEA	110-137								
PPILS_PSEAE	SENSOR PROTEIN PILS	PSEUDOMONAS AERUGINOSA	71-115	639-666							
PPIR_ECOLI	PI PROTEIN	PSEUDOMONAS AERUGINOSA	9-46								
PPIV_MORBO	PILN GENE INVERTING PROTEIN	ESCHERICHIA COLI	156-188								
PPIV_MORLO	PILN GENE INVERTING PROTEIN	MORAXELLA BOVIS	42-69	152-182							
PPPLC_BACCE	PHOSPHODIESTERASE PRECURSOR	MORAXELLA LACUNATA	152-182								
PPPLC_BACTU	PHOSPHODIESTERASE PRECURSOR	BACILLUS CEREUS	217-245								
PPPLC_LISMO	PHOSPHODIESTERASE PRECURSOR	BACILLUS THURINGIENSIS	216-245								
PPPLC_ECOLI	ACYLTRANSFERASE	LISTERIA MONOCYTOGENES	238-265								
PPLSX_ECOLI	PLSX PROTEIN	ESCHERICHIA COLI	106-133								
PPLYD_ERWCA	PECTIN LYASE	ESCHERICHIA COLI	241-270								
PPMBA_ECOLI	PMBA PROTEIN	ERWINIA CAROTOVORA	27-92								
PPME_ERWCH	PECTINESTERASE PRECURSOR	ESCHERICHIA COLI	9-50								
PPMGY_ECOLI	PHOSPHOGLYCERATE MUTASE	ERWINIA CHRYSANTHEMI	60-87								
PPMGT_ZYMM	PHOSPHOGLYCERATE MUTASE	ESCHERICHIA COLI	82-116								
PPNP_ECOLI	POLYRIBONUC NUCLEOTIDYL TRANSF	ZYMONONAS MOBILIS	13-40	80-110							
PPNIT_SALTY	PNIT PROTEIN	ESCHERICHIA COLI	260-294								
PPODK_BACSY	PYRUVATE OXTHOPHOSPHATE DIKINASE	SALMONELLA TYPHIMURIUM	178-205								
PPORF_PSESY	OUTER MEMBRANE PORIN F PRECURSOR	BACTEROIDES SYMBIOSUS	51-78								
PPORO_PSEAE	PORIN O PRECURSOR	PSEUDOMONAS SYRINGAE	111-138								
PPORP_PSEAE	PORIN P PRECURSOR	PSEUDOMONAS AERUGINOSA	390-424								
PPOTD_ECOLI	BINDING PROTEIN PRECURSOR	PSEUDOMONAS AERUGINOSA	139-181	260-287	369-396						
PPOTE_ECOLI	PUTRESCINE-ORNITHINE ANTIporter	ESCHERICHIA COLI	320-347								
PPPOB_ECOLI	PYRUVATE DEHYDROGENASE	ESCHERICHIA COLI	91-118								
PPPB3_BACSU	ALKALINE PHOSPHATASE III PRECURSOR	ESCHERICHIA COLI	8-38								
PPPB4_BACU	ALKALINE PHOSPHATASE IV PRECURSOR	BACILLUS SUBTILIS	109-150	433-460							
PPPB_ECOLI	ALKALINE PHOSPHATASE PRECURSOR	BACILLUS SUBTILIS	85-123	336-363							
PPPB_ESCRE	ALKALINE PHOSPHATASE PRECURSOR	ESCHERICHIA COLI	235-262								
PPPC_E_FLAME	PROLYL ENDOPEPTIDASE PRECURSOR	ESCHERICHIA FERUGSONII	236-263								
PPPCF_FLAME	PROLYL ENDOPEPTIDASE PRECURSOR	FLAVOBACTERIUM MENINGOSEPTICUM	158-199								
PPPCK_ECOLI	PHOSPHOENOLPYRUVATE CARBOXYKINASE	FLAVOBACTERIUM MENINGOSEPTICUM	158-199	236-283							
		ESCHERICHIA COLI	45-72								

PGENE	1071784	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
ELENAMIE	PROTEIN	ORGANISM	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
PPDA_CLOPE	PROTEIN A PRECURSOR	CLOSTRIDIUM PERRUNGENS	73-107								
PPPSA_ECOLI	PHOSPHONOLPYRUVATE SYNTHASE	ESCHERICHIA COLI	49-76								
PPQO2_ACICA	COENZYME PQQ SYNTHESIS PROTEIN II	ACINETOBACTER CALCOACETICUS	40-74								
PPPCA_ANAVA	CALCIUM DEPENDENT PROTEINASE PRECURSOR	ANABAENA VARIABILIS	371-398								
PPPCA_THEAC	PROTEASOME, ALPHA SUBUNIT	THERMOPLASMA ACIDOPHILUM	88-115								
PPRCI_ECOLI	TAIL-SPECIFIC PROTEINASE PRECURSOR	ESCHERICHIA COLI	158-192	366-393							
PPREI_STAAL	PLASMID RECOMBINATION ENZYME	STAPHYLOCOCCUS AUREUS	27-78	152-179	264-347						
PPRE2_STAAL	PLASMID RECOMBINATION ENZYME	STAPHYLOCOCCUS AUREUS	48-75	181-208	310-361	366-393					
PPREA_LACPL	PLASMID RECOMBINATION ENZYME	LACTOBACILLUS PLANTARUM	37-71	291-318							
PPREI_BACLI	REGULATORY PROTEIN	BACILLUS LICHENIFORMIS	2-40								
PPREI_BACSP	PLASMID RECOMBINATION ENZYME	BACILLUS SP	181-224	288-345							
PPREI_STRAG	PLASMID RECOMBINATION ENZYME	STREPTOCOCCUS AGALACTIAE	285-319	332-359	420-454						
PPREI_LISMO	LISTERIOLYSIN REGULATORY PROTEIN	LISTERIA MONOCYTOGENES	76-110	173-204							
PPRIA_ECOLI	PRIMOSOMAL PROTEIN N	ESCHERICHIA COLI	218-245								
PPRIM_BACSU	DNA PRIMASE	BACILLUS SUBTILIS	383-433								
PPRIM_BUCAP	DNA PRIMASE	BUCHNERA APHIDICOLA	13-43	282-319							
PPRIM_CLOAB	DNA PRIMASE	CLOSTRIDIUM ACETOBUTYLICUM	87-114								
PPRIM_LACLA	DNA PRIMASE	LACTOCOCCUS LACTIS	269-296								
PPRIM_RICPR	DNA PRIMASE	RICKETTSIA PROWAZEKII	10-37	245-286	477-504	526-593					
PPRIS_DESDE	PRISMAINE PROTEIN	DESULFOVIBRIO DESULFURICANS	30-57								
PPRLB_ACHLY	BETA-LYTIC METALLOENDOPEPTIDASE	ACHROMOBACTER LYTIUS	317-344								
PPRLB_LYSEN	BETA-LYTIC METALLOENDOPEPTIDASE	LYSOBACTER ENZYMOGENES	121-148								
PPRO1_LISMO	ZINC METALLOPROTEINASE PRECURSOR	LISTERIA MONOCYTOGENES	111-145	275-316							
PPRO2_LISMO	ZINC METALLOPROTEINASE PRECURSOR	LISTERIA MONOCYTOGENES	111-145								
PPROA_SERMA	GAMMA-GLUTAMYL PHOSPHATE REDUCTASE	SERRATIA MARCESCENS	309-336								
PPROA_STAAL	PROTEIN A PRECURSOR	STAPHYLOCOCCUS AUREUS	2-29								
PPROB_SERMA	GLUTAMATE 5-KINASE	SERRATIA MARCESCENS	7-34								
PPROD_ECOLI	PROTEIN B	STREPTOCOCCUS AGALACTIAE	58-85								
PPROC_PSEAE	PYRROLINE-5-CARBOXYLATE REDUCTASE	PSEUDOMONAS AERUGINOSA	148-175								
PPROH_BACSU	PYRROLINE-5-CARBOXYLATE REDUCTASE HOMOL	BACILLUS SUBTILIS	200-227								
PPROP_ECOLI	PROLINEBETAINE TRANSPORTER	ESCHERICHIA COLI	460-487								
PPROV_ECOLI	PERIPHERAL MEMBRANE PROTEIN PROV	ESCHERICHIA COLI	24-54								
PPROV_SALTY	PERIPHERAL MEMBRANE PROTEIN PROV	SALMONELLA TYPHIMURUM	24-54								
PPRRC_ECOLI	PRR PROTEIN	ESCHERICHIA COLI	170-197								
PPRRC_ECOLI	ANTICODON NUCLEASE	ESCHERICHIA COLI	282-309								
PPRRC_ECOLI	PRR PROTEIN	ESCHERICHIA COLI	278-305								
PPRSD_ECOLI	PRSD PROTEIN	BACILLUS SUBTILIS	52-87	95-157							
PPPSA_BACSU	PROTEIN EXPORT PROTEIN PSA PRECURSOR	STREPTOMYCES GRISEUS	56-110								
PPPTA_STRGR	PROTEASE A PRECURSOR	ERWINIA CHRYSANTHEMI	103-130								
PPPTC_ERWCH	SECRETED PROTEASE C PRECURSOR	PORPHYROMONAS GINGIVALIS	285-312								
PPPTD_ERWCH	PROTEASES SECRETION PROTEIN PRD	ERWINIA CHRYSANTHEMI	328-355								
PPPTF_ERWCH	PROTEASES SECRETION PROTEIN PRF	ERWINIA CHRYSANTHEMI	106-131	219-265	346-184						
PPPTF_ERWCH	PROTEASES SECRETION PROTEIN PRF	ERWINIA CHRYSANTHEMI	108-135	158-192	221-290						
PPPTM_LACLA	PROTEASE MATURATION PROTEIN PRECURSOR	LACTOCOCCUS LACTIS	76-103	112-139							
PPPTM_LACLC	PROTEASE MATURATION PROTEIN PRECURSOR	LACTOCOCCUS LACTIS	26-53	76-103	112-139						
PPPTM_LACPA	PROTEASE MATURATION PROTEIN PRECURSOR	LACTOBACILLUS PARACASEI	76-103	112-139							
PPPTS_SIRMA	EXTRACELLULAR SERINE PROTEINASE PRECURSOR	SERRATIA MARCESCENS	304-331	576-607	1007-1041						
PPPTT_SIRMA	EXTRACELLULAR SERINE PROTEINASE PRECURSOR	SERRATIA MARCESCENS	304-331	464-491	1007-1041						
PPPTX_ERWCH	SECRETED PROTEASE C PRECURSOR	ERWINIA CHRYSANTHEMI	314-341								
PPSAA_STYEN	CHLOROPHYLL A APOPROTEIN A1	SYNECHOCOCCUS ELONGATUS NAEGEL	120-147								
PPSAA_STY2	CHLOROPHYLL A APOPROTEIN A1	SYNECHOCOCCUS SP	109-136	326-356							
PPSAA_STYU	CHLOROPHYLL A APOPROTEIN A1	SYNECHOCOCCUS VULCANUS	120-147								
PPSAA_STY3	CHLOROPHYLL A APOPROTEIN A1	SYNECHOCOCCUS VULCANUS	44-71	120-147	338-368						
PPSAD_YIRRIE	CHAPERONE PROTEIN PSAD PRECURSOR	YERSINIA PESTIS	244-271								
PPSAD_SYNP6	PHOTOSYSTEM I REACTION CENTRE SUBUNIT II	SYNECHOCOCCUS SP	11-38								
PPSAE_YIRPE	PSAE PROTEIN PRECURSOR	YERSINIA PESTIS	66-118								

PCGENE	107x178x4	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PPSBO ANANI	STABILIZING POLYPEPTIDE PRECURSOR	ANACYSTIS NIDULANS	99-126	209-243							
PPSPA ECOLI	PHAGE SHOCK PROTEIN A	ESCHERICHIA COLI	55-82								
PPSRA WOLSU	POLYSULFIDE REDUCTASE CHAIN A PRECURSOR	WOLINELLA SUCCINOGENES	114-141								
PPSTS ECOLI	PHOSPHATE-BINDING PROTEIN PRECURSOR	ESCHERICHIA COLI	40-74								
PPTI BACSU	PHOSPHOTRANSFERASE	BACILLUS SUBTILIS	26-60								
PPTI ECOLI	PHOSPHOTRANSFERASE	ESCHERICHIA COLI	135-162	399-426							
PPTI SALTY	PHOSPHOTRANSFERASE	SALMONELLA TYPHIMURIUM	232-259	399-426							
PPTI STACA	PHOSPHOTRANSFERASE	STAPHYLOCOCCUS CARNOSSUS	34-61								
PPTI STRSL	PHOSPHOTRANSFERASE	STREPTOCOCCUS SALIVARIUS	14-61	198-232							
PPT2B ERWCH	PHOSPHOTRANSFERASE ENZYME II	ERWINIA CHRYSAEANTHI	127-154								
PPT2G BACSU	PHOSPHOTRANSFERASE ENZYME II	BACILLUS SUBTILIS	670-697								
PPT2L LACCA	PHOSPHOTRANSFERASE ENZYME II	LACTOBACILLUS CASEI	537-564								
PPT2L LACLA	PHOSPHOTRANSFERASE ENZYME II	LACTOCOCCUS LACTIS	183-214	409-436							
PPT2L STAAU	PHOSPHOTRANSFERASE ENZYME II	STAPHYLOCOCCUS AUREUS	421-448	530-557							
PPT2M ECOLI	PHOSPHOTRANSFERASE ENZYME II	ESCHERICHIA COLI	445-489								
PPT2M STACA	PHOSPHOTRANSFERASE ENZYME II	STAPHYLOCOCCUS CARNOSSUS	388-415								
PPT2N ECOLI	N-ACETYLGLUCOSAMINE-PERMEASE	ESCHERICHIA COLI	370-400								
PPT2S STRHU	PHOSPHOTRANSFERASE ENZYME II	STREPTOCOCCUS MUTANS	600-627								
PPT2F SALTY	PHOSPHOTRANSFERASE FPR PROTEIN	SALMONELLA TYPHIMURIUM	107-134								
PPT2L LACCA	PHOSPHOTRANSFERASE FACTOR III	LACTOBACILLUS CASEI	40-67								
PPT2P ECOLI	PHOSPHOCARRIER PROTEIN HPR	ESCHERICHIA COLI & SALMONELLA TYPHIMURIUM	31-65								
PPT2P KLEPN	PHOSPHOCARRIER PROTEIN HPR	KLEBSIELLA PNEUMONIAE	31-65								
PPT2B ECOLI	PROTEASE II	ESCHERICHIA COLI	94-121	217-251							
PPULA KLEAE	PULLULANASE	KLEBSIELLA AEROGENES	894-928								
PPULA KLEPN	PULLULANASE	KLEBSIELLA PNEUMONIAE	894-918								
PPULO KLEPN	LEADER PEPTIDASE	KLEBSIELLA PNEUMONIAE	178-205								
PPULS KLEPN	PULS PRECURSOR	KLEBSIELLA PNEUMONIAE	70-97								
PPUPA PSEPU	UPTAKE PROTEIN PRECURSOR	PSEUDOMONAS PUTIDA	112-162	210-237	429-463	736-763					
PPURT BACSU	AMIDOPHOSPHORIBOSYL TRANSF. PREC.	BACILLUS SUBTILIS	394-421								
PPUR2 BACSU	PHOSPHORIBOSYL-GLYCINE LIGASE	BACILLUS SUBTILIS	349-376								
PPUR3 BACSU	FORMYL TRANSFERASE	BACILLUS SUBTILIS	149-176								
PPUR3 ECOLI	FORMYL TRANSFERASE	ESCHERICHIA COLI	27-54								
PPUR4 BACSU	SYNTHASE I	BACILLUS SUBTILIS	18-45								
PPUR5 BACSU	CYCLO-LIGASE	BACILLUS SUBTILIS	153-194								
PPUR6 ECOLI	AIR CARBOXYLASE	ESCHERICHIA COLI	131-158								
PPUR7 BACSU	SALICAR SYNTHETASE	BACILLUS SUBTILIS	3-43								
PPUR8 BACSU	ADENYLOSUCCINATE LYASE	BACILLUS SUBTILIS	56-130	226-253							
PPUR8 ECOLI	ADENYLOSUCCINATE LYASE	ESCHERICHIA COLI	194-221	331-372							
PPUR9 BACSU	AICAR TRANSFORMYLASE	BACILLUS SUBTILIS	19-53	345-372							
PPUR9 ECOLI	AICAR TRANSFORMYLASE	ESCHERICHIA COLI	239-268								
PPUR9 SALTY	AICAR TRANSFORMYLASE	SALMONELLA TYPHIMURIUM	218-247								
PPURL BACSU	SYNTHASE II	BACILLUS SUBTILIS	609-636								
PPYGI ANASP	LINKER POLYPEPTIDE CPCG1	ANABAENA SP	88-115								
PPYGI MASLA	LINKER POLYPEPTIDE CPCG1	MASTIGOCLOADUS LAMINOSUS	89-116								
PPYG2 ANASP	LINKER POLYPEPTIDE CPCG2	ANABAENA SP	88-115								
PPYG2 MASLA	LINKER POLYPEPTIDE CPCG2	MASTIGOCLOADUS LAMINOSUS	89-116								
PPYG3 MASLA	LINKER POLYPEPTIDE CPCG3	MASTIGOCLOADUS LAMINOSUS	91-132								
PPYG4 ANASP	LINKER POLYPEPTIDE CPCG4	ANABAENA SP	90-131								
PPYRI ANASP	32.1 KD LINKER POLYPEPTIDE	ANABAENA SP	35-62								
PPYR2 FREDI	27.9 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSIPHON	105-132								
PPYR4 FREDI	31.6 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSIPHON	22-66								
PPYR5 FREDI	37.5 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSIPHON	106-143								
PPYR6 FREDI	30.8 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSIPHON	43-70	113-140							
PPYRB BACSU	ASPARTATE CARBAMOYLTRANSFERASE	BACILLUS SUBTILIS	9-36								
PPYRB SERMA	ASPARTATE CARBAMOYLTRANSFERASE	SERRATA MARCESCENS	70-97								
PPYRD ECOLI	DIHYDROOROTATE DEHYDROGENASE	ESCHERICHIA COLI	115-142								

PCGENE	107k178x4	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILENAME	PROTEIN	ORGANISM	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
PPYRD_SALTY	DIHYDROOXYLATE DEHYDROGENASE	SALMONELLA TYPHIMURUM	115-142	183-210							
PPYRD_BACSU	CTP SYNTHASE	BACILLUS SUBTILIS	275-302	322-349							
PPYSI_FREDI	PHYCOBILISOME 9.7 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSPHON	21-48								
POOR_ECOLI	QUINONE OXIDOREDUCTASE	ESCHERICHIA COLI	180-215								
POUEA_ECOLI	QUEUOSINE BIOSYNTHESIS PROTEIN QUEA	ESCHERICHIA COLI	234-261								
PR4K_CLOPA	34.2 KD PROTEIN IN RUBREDOXIN OPERON	CLOSTRIDIUM PASTEURIANUM	23-30	157-232							
PRACC_ECOLI	RACC PROTEIN	ESCHERICHIA COLI	5-32								
PRACD_STRTR	ASPARTATE RACEMASE	STREPTOCOCCUS THERMOPHILUS	152-189								
PRACX_BACSU	PROBABLE AMINO ACID RACEMASE	BACILLUS SUBTILIS	132-162								
PRAFI_ECOLI	ALPHA-GALACTOSIDASE	ESCHERICHIA COLI	89-116								
PRAFD_ECOLI	RAFFINOSE INVERTASE	ESCHERICHIA COLI	348-375								
PRBSC_ECOLI	RIBOSE TRANSPORT SYSTEM COMPONENT	ESCHERICHIA COLI	65-99	195-222							
PRBSK_ECOLI	RIBOKINASE	ESCHERICHIA COLI	200-239								
PRBTR_KLEAE	RIBITOL (RBT) OPERON REPRESSOR	KLEBSIELLA AEROGES	6-47								
PRCSA_ECOLI	BIOSYNTHESIS ACTIVATION PROTEIN A	ESCHERICHIA COLI	170-197								
PRCSA_ERWAM	BIOSYNTHESIS ACTIVATION PROTEIN A	ERWINIA AMYLOVORA	92-119	174-201							
PRCSA_ERWST	BIOSYNTHESIS ACTIVATION PROTEIN A	ERWINIA STEWARTII	174-201								
PRCSA_KLEAE	BIOSYNTHESIS ACTIVATION PROTEIN A	KLEBSIELLA AEROGES	168-205								
PRCSB_ECOLI	CAPSULE SYNTHESIS B COMPONENT	ESCHERICHIA COLI	14-41	159-186							
PREC2_LEGPN	RECA PROTEIN	LEGIONELLA PNEUMOPHILA	262-310								
PREC3_ACHLA	RECA PROTEIN	ACHOLEPLASMA LAIDLAWII	283-310								
PREC4_AGRTO	RECA PROTEIN	AGROBACTERIUM TUNEFACIENS	3-30	132-159	281-308						
PREC4_ANAVA	RECA PROTEIN	ANABAENA VARIABILIS	322-349								
PREC4_AQUPY	RECA PROTEIN	AQUIFEX PYROPHILUS	63-90	126-153							
PREC4_BACFR	RECE PROTEIN	BACTEROIDES FRAGILIS	108-135								
PREC4_BACSU	RECE PROTEIN	BACILLUS SUBTILIS	267-294								
PREC4_BRUAB	RECA PROTEIN	BRUCELLA ABORTUS	3-30	132-159	280-307						
PREC4_BURCE	RECA PROTEIN	BURKHOLDERIA CEPACIA	75-109								
PREC4_ERAWCA	RECA PROTEIN	ERWINIA CAROTOVORA	284-311								
PREC4_LACDE	RECA PROTEIN	LACTOBACILLUS DELBRUECKII	20-47								
PREC4_LACHE	RECA PROTEIN	LACTOBACILLUS HELVETICUS	20-47								
PREC4_LAGLA	RECA PROTEIN	LACTOCOCCUS LACTIS	135-162	232-269	288-315						
PREC4_METCL	RECA PROTEIN	METHYLOMONAS CLARA	266-303								
PREC4_METFL	RECA PROTEIN	METHYLOBACILLUS FLAGELLATUM	276-303								
PREC4_MYCPH	RECA PROTEIN	MYCOPLASMA PULMONIS	30-57								
PREC4_MYCTU	RECA PROTEIN	MYCOBACTERIUM TUBERCULOSIS	749-776								
PREC4_NEIGO	RECA PROTEIN	NEISSERIA GONORRHOEA	263-310								
PREC4_PROMI	RECA PROTEIN	PROTEUS MIRABILIS	283-310								
PREC4_PSEAE	RECA PROTEIN	PSEUDOMONAS AERUGINOSA	282-309								
PREC4_RHILP	RECA PROTEIN	RHIZOBIUM LEGUMINOSARUM	3-30	131-158	280-307						
PREC4_RHILV	RECA PROTEIN	RHIZOBIUM LEGUMINOSARUM	119-146	268-295							
PREC4_RHIME	RECA PROTEIN	RHIZOBIUM MELLIOTI	119-146	268-295							
PREC4_RHOSH	RECA PROTEIN	RHODOBACTER SPHAEROIDES	119-146								
PREC4_STRPN	RECA PROTEIN	STREPTOCOCCUS PNEUMONIAE	134-161	293-327							
PREC4_SYNP2	RECA PROTEIN	SYNECHOCOCCUS SP	124-151								
PREC4_VIBCH	RECA PROTEIN	VIBRIO CHOLERAE	290-317								
PREC4_BACSU	RECF PROTEIN	BACILLUS SUBTILIS	4-31	178-205							
PREC4_ECOLI	RECF PROTEIN	ESCHERICHIA COLI	82-109	147-174							
PREC4_PQOMI	RECF PROTEIN	PROTEUS MIRABILIS	86-113								
PREC4_PSEU	RECF PROTEIN	PSEUDOMONAS PUTIDA	84-111								
PREC4_SALTU	RECF PROTEIN	SALMONELLA TYPHIMURUM	147-174								
PREC4_ECOLI	EXONUCLEASE RECI	ESCHERICHIA COLI	52-79								
PREC4_BACSU	RECOMBINATION PROTEIN	BACILLUS SUBTILIS	21-48	156-184	192-247	299-336	344-378				
PREC4_ECOLI	DNA HELICASE RECO	ESCHERICHIA COLI	468-495								
PRELA_ECOLI	GTP PYROPHOSPHOKINASE	ESCHERICHIA COLI	680-707								
PREMA_BACSU	REPLICATION AND MAINTENANCE PROTEIN	BACILLUS SUBTILIS	2-36	81-108							
PREMA_STAAU	REPLICATION AND MAINTENANCE PROTEIN	STAPHYLOCOCCUS AUREUS	2-36	81-108							

PCGENE	1071181.4	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	2-36	81-108							
PREMA_STAEP	REPLICATION AND MAINTENANCE PROTEIN	STAPHYLOCOCCUS EPIDERMIDIS	2-36	81-108							
PREPS_ECOLI	REPLICATION PROTEIN REPA	ESCHERICHIA COLI	50-77	90-117							
PREPA_BACSU	REPA PROTEIN	BACILLUS SUBTILIS	342-373								
PREPA_ECOLI	REPA PROTEIN	ESCHERICHIA COLI	91-118	228-255							
PREPA_NEIGO	REPLICATION PROTEIN	NEISSERIA GONORRHOEA	57-84	138-172							
PREPB_LACPL	REPLICATION PROTEIN REPB	LACTOBACILLUS PLANTARUM	184-211								
PREPM_STAAL	REPLICATION INITIATION PROTEIN	STAPHYLOCOCCUS AUREUS	234-284								
PREPN_STAAL	REPLICATION INITIATION PROTEIN	STAPHYLOCOCCUS AUREUS	238-285								
PREPR_STAAG	REPR PROTEIN	STREPTOCOCCUS AGALACTIAE	430-467								
PREPS_STRPY	REPS PROTEIN	STREPTOCOCCUS PYOGENES	423-467								
PREPX_STAAL	REP PROTEIN	STAPHYLOCOCCUS AUREUS	111-150	172-210							
PREPY_ECOLI	REPLICATION INITIATION PROTEIN	ESCHERICHIA COLI	288-315								
PREP_CLOPE	REPLICATION PROTEIN	CLOSTRIDIUM PERFRINGENS	168-195	297-324	343-375						
PREP_ECOLI	REP HELICASE	ESCHERICHIA COLI	119-146	205-243							
PREP_LACPL	REP PROTEIN	LACTOBACILLUS PLANTARUM	119-199	260-287							
PRESP_CLOPE	RESOLVASE	CLOSTRIDIUM PERFRINGENS	68-102	151-185							
PRE2_BACSU	PROBABLE PEPTIDE CHAIN RELEASE FACTOR 2	BACILLUS SUBTILIS	34-68								
PRE2_ECOLI	PEPTIDE CHAIN RELEASE FACTOR 2	ESCHERICHIA COLI	86-113	163-204							
PRE2_SALTY	PEPTIDE CHAIN RELEASE FACTOR 2	SALMONELLA TYPHIMURIUM	86-113	163-204							
PRE3_ECOLI	PEPTIDE CHAIN RELEASE FACTOR 3	ESCHERICHIA COLI	180-210	443-473							
PREAB_ECOLI	1,6-GALACTOSYLTRANSFERASE	ESCHERICHIA COLI	199-226								
PRFAG_ECOLI	BIOSYNTHESIS PROTEIN RFAG	ESCHERICHIA COLI	185-212								
PRFAJ_ECOLI	1,2-GLUCOSYLTRANSFERASE	ESCHERICHIA COLI	39-66	233-268							
PRFAJ_SALTY	1,2-GLUCOSYLTRANSFERASE	SALMONELLA TYPHIMURIUM	68-95	145-172	236-263						
PRFAK_SALTY	1,2-N-ACETYLGLUCOSAMINOTRANSFERASE	SALMONELLA TYPHIMURIUM	335-369								
PRFAL_ECOLI	O-ANTIGEN LIGASE	ESCHERICHIA COLI	366-393								
PRFAL_SALTY	O-ANTIGEN LIGASE	SALMONELLA TYPHIMURIUM	326-360								
PRFAP_ECOLI	BIOSYNTHESIS PROTEIN RFAP	ESCHERICHIA COLI	8-35								
PRFAS_ECOLI	BIOSYNTHESIS PROTEIN RFAS	ESCHERICHIA COLI	62-89	184-240							
PRFAZ_ECOLI	BIOSYNTHESIS PROTEIN RFAY	ESCHERICHIA COLI	18-45								
PRFAZ_ECOLI	BIOSYNTHESIS PROTEIN RFAY	ESCHERICHIA COLI	3-30	85-112							
PRFBB_SALTY	DTDP-GLUCOSE 4,6-DEHYDRATASE	SALMONELLA TYPHIMURIUM	320-359								
PRFBM_SALTY	MANNOSE-1-PHOSPHATE GUANYLYLTRANSFERASE	SALMONELLA TYPHIMURIUM	313-361								
PRFBS_SALTY	PARATOSE SYNTHASE	SALMONELLA TYPHI	22-56	205-232							
PRFEA_VIBAN	PRECURSOR FOR FERRIC ANGIUBACTIN	VIBRIO ANGIUBACTIN	349-376								
PRFH_ECOLI	PEPTIDE CHAIN RELEASE FACTOR HOMOLOG	ESCHERICHIA COLI	83-110								
PRG12_BACTO	PUTATIVE G12 SITE-SPECIFIC RECOMBINASE	BACILLUS THURINGIENSIS	15-68	190-262	310-383						
PRHAB_ECOLI	RHAMNULOXINASE	ESCHERICHIA COLI	175-202								
PRHAB_SALTY	RHAMNULOXINASE	SALMONELLA TYPHIMURIUM	175-202								
PRHAR_ECOLI	L-RHAMNOSE OPERON TRANSACTIVATOR	ESCHERICHIA COLI	10-41								
PRHAS_ECOLI	L-RHAMNOSE OPERON REG PROTEIN RHAS	ESCHERICHIA COLI	152-179								
PRHIR_RHILV	RHIR REGULATORY PROTEIN	RHIZOBIVUM LEGUMINOSARUM	206-233								
PRHQB_BORBU	RNA HELICASE RHLB/MRA	ESCHERICHIA COLI	138-165								
PRHQB_BORBU	TRANS TERM FACTOR RHO	BORRELIA BURGDORFERI	215-242	377-369							
PRHPR_BACSU	PROTEASE PROD REG PROTEIN HPR	BACILLUS SUBTILIS	82-109								
PRHSA_ECOLI	RHSA PROTEIN PRECURSOR	ESCHERICHIA COLI	687-694								
PRHSB_ECOLI	RHSB PROTEIN PRECURSOR	ESCHERICHIA COLI	667-694								
PRHSC_ECOLI	RHSC PROTEIN PRECURSOR	ESCHERICHIA COLI	380-414	667-694	1056-1083						
PRHSD_ECOLI	RHSD PROTEIN PRECURSOR	ESCHERICHIA COLI	671-712	1071-1098							
PRHSE_ECOLI	RHSE PROTEIN	ESCHERICHIA COLI	345-372								
PRHSE_ECOLI	RHSE PROTEIN	ESCHERICHIA COLI	93-127								
PRHSE_ECOLI	ACETYLTRANSFERASE	ESCHERICHIA COLI	167-194								
PRH2_ECOLI	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE	ESCHERICHIA COLI	2-47	131-158							
PRISA_PHOLE	RIBOFLAVIN SYNTHASE ALPHA CHAIN	PHOTOBACTERIUM LEIOGNATHII	8-35								
PRISB_BAGSU	RIBOFLAVIN SYNTHASE BETA CHAIN	BACILLUS SUBTILIS	14-41								
PRISB_PHOLE	RIBOFLAVIN SYNTHASE BETA CHAIN	PHOTOBACTERIUM LEIOGNATHII	14-41								
PRLI10_STRAT	50S RIBOSOMAL PROTEIN L10	STREPTOMYCES ANTIHIOITICUS	14-72	106-133							
PRLI12_SYNY3	50S RIBOSOMAL PROTEIN L12	SYNECHOCYSTIS SP	2-34								

PCGENE	1071784	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PRL12 THMA	50S RIBOSOMAL PROTEIN L12	THERMOTOGA MARITIMA	8-35	56-86						
PRL14 BACST	50S RIBOSOMAL PROTEIN L14	BACILLUS STEAROTHERMOPHILUS	18-45							
PRL14 MICLU	50S RIBOSOMAL PROTEIN L14	MICROCOCUS LUTEUS	18-45							
PRL14 MYCCA	50S RIBOSOMAL PROTEIN L14	MYCOPLASMA CAPRICOLUM	51-92							
PRL15 BACLI	50S RIBOSOMAL PROTEIN L15	BACILLUS LICHENIFORMIS	21-48							
PRL15 BACST	50S RIBOSOMAL PROTEIN L15	BACILLUS STEAROTHERMOPHILUS	95-134							
PRL15 BACSU	50S RIBOSOMAL PROTEIN L15	BACILLUS SUBTILIS	95-122							
PRL15 CHLTR	50S RIBOSOMAL PROTEIN L15	CHLAMYDIA TRACHOMATIS	110-144							
PRL15 ECOLI	50S RIBOSOMAL PROTEIN L15	ESCHERICHIA COLI	79-113							
PRL15 LACLA	50S RIBOSOMAL PROTEIN L15	LACTOCOCCUS LACTIS	8-35							
PRL15 METVA	50S RIBOSOMAL PROTEIN L15	METHANOCOCCUS VANNIELII	68-102							
PRL15 MYCCA	50S RIBOSOMAL PROTEIN L15	MYCOPLASMA CAPRICOLUM	61-135							
PRL18 BACST	50S RIBOSOMAL PROTEIN L18	BACILLUS STEAROTHERMOPHILUS	31-58							
PRL18 CHLTR	50S RIBOSOMAL PROTEIN L18	CHLAMYDIA TRACHOMATIS	32-86							
PRL18 HALMA	50S RIBOSOMAL PROTEIN L18	HALOARCUA MARISORTUI	80-107							
PRL18 MYCCA	50S RIBOSOMAL PROTEIN L18	MYCOPLASMA CAPRICOLUM	61-88							
PRL19 ECOLI	50S RIBOSOMAL PROTEIN L19	ESCHERICHIA COLI	25-52							
PRL19 HALMA	50S RIBOSOMAL PROTEIN L19	HALOARCUA MARISORTUI	101-128							
PRL19 NETVA	PROBABLE 50S RIBOSOMAL PROTEIN	METHANOCOCCUS VANNIELII	45-72							
PRL1 PROVL	50S RIBOSOMAL PROTEIN L1	PROTEUS VULGARIS	159-194							
PRL1 SULSO	50S RIBOSOMAL PROTEIN L1	SULFOLOBUS SOLFATARICUS	5-32	184-211						
PRL20 ECOLI	50S RIBOSOMAL PROTEIN L20	ESCHERICHIA COLI	14-41							
PRL20 MYCCE	50S RIBOSOMAL PROTEIN L20	MYCOPLASMA FERMENTANS	14-41							
PRL21 BACSU	50S RIBOSOMAL PROTEIN L21	BACILLUS SUBTILIS	4-38							
PRL22 ECOLI	50S RIBOSOMAL PROTEIN L22	ESCHERICHIA COLI	28-55							
PRL23 METVA	50S RIBOSOMAL PROTEIN L23	METHANOCOCCUS VANNIELII	30-57							
PRL23 MYCCA	50S RIBOSOMAL PROTEIN L23	MYCOPLASMA CAPRICOLUM	32-59							
PRL24 HALMA	50S RIBOSOMAL PROTEIN L24	HALOARCUA MARISORTUI	48-75							
PRL24 METVA	50S RIBOSOMAL PROTEIN L24	METHANOCOCCUS VANNIELII	61-90							
PRL24 MICLU	50S RIBOSOMAL PROTEIN L24	MICROCOCUS LUTEUS	36-63							
PRL29 CHLTR	50S RIBOSOMAL PROTEIN L29	CHLAMYDIA TRACHOMATIS	39-66							
PRL29 ECOLI	50S RIBOSOMAL PROTEIN L29	ESCHERICHIA COLI	36-63							
PRL29 MYCCA	50S RIBOSOMAL PROTEIN L29	MYCOPLASMA CAPRICOLUM	39-85							
PRL4 BACST	50S RIBOSOMAL PROTEIN L4	BACILLUS STEAROTHERMOPHILUS	141-168							
PRL4 MYCCA	50S RIBOSOMAL PROTEIN L4	MYCOPLASMA CAPRICOLUM	144-198							
PRL5 THETH	50S RIBOSOMAL PROTEIN L5	THERMUS AQUATICUS	38-65							
PRL6 BACST	50S RIBOSOMAL PROTEIN L6	BACILLUS STEAROTHERMOPHILUS	79-106							
PRL6 ECOLI	50S RIBOSOMAL PROTEIN L6	ESCHERICHIA COLI	19-46							
PRL6 METVA	50S RIBOSOMAL PROTEIN L6	METHANOCOCCUS VANNIELII	129-159							
PRL9 BACST	50S RIBOSOMAL PROTEIN L9	BACILLUS STEAROTHERMOPHILUS	47-77							
PRL9 ECOLI	50S RIBOSOMAL PROTEIN L9	ESCHERICHIA COLI	122-149							
PRLA0 ITALCU	ACIDIC RIBOSOMAL PROTEIN PO HOMOLOG	HALODIACETERIUM CUTIRUBUM	138-182							
PRLA0 HALHA	ACIDIC RIBOSOMAL PROTEIN PO HOMOLOG	HALOBACTERIUM HALOBILUM	138-182							
PRLA0 HALMA	ACIDIC RIBOSOMAL PROTEIN PO HOMOLOG	HALOARCUA MARISORTUI	64-91	153-184						
PRLA0 METVA	ACIDIC RIBOSOMAL PROTEIN PO HOMOLOG	METHANOCOCCUS VANNIELII	194-221							
PRLA HALEU	RIBOSOMAL PROTEIN A	HALOPHILIC EUBACTERIUM NRCC 41227	59-86							
PRLA IALHA	50S RIBOSOMAL PROTEIN L20	HALODIACETERIUM ITALOHIUM	2-29							
PRLA IALMA	50S RIBOSOMAL PROTEIN L12	HALOARCUA MARISORTUI	2-29							
PRLA METVA	RIBOSOMAL PROTEIN A	METHANOCOCCUS VANNIELII	2-29							
PRLA MICU	70S RIBOSOMAL PROTEIN MA	MICROCOCUS LUTEUS	55-82	90-117						
PRLX1 SALTU	43 KD RELAXATION PROTEIN	SALMONELLA TYPHIMURUM	226-260							
PRLX1 STAUU	22 KD RELAXATION PROTEIN	STAPHYLOCOCCUS AUREUS	3-30	102-132	177-218	266-300				
PRLX2 SALTU	22 KD RELAXATION PROTEIN	SALMONELLA TYPHIMURUM	19-53							
PRLX2 STAAU	RLX PROTEIN	STAPHYLOCOCCUS AUREUS	3-30	102-133	261-295					
PRLX3 STAAU	RLX PROTEIN	STAPHYLOCOCCUS AUREUS	3-30	146-216						
PRLX SULSO	50S RIBOSOMAL PROTEIN LX	SULFOLOBUS SOLFATARICUS	32-62							
PRLNR BACAM	RIBONUCLEASE PRECURSOR	BACILLUS AMYLOLIQUIFICANS	33-67	120-156						

PCGENE	10717844	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILE NAME	PROTEIN	ORGANISM	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
PRNC_ECOLI	RIBONUCLEASE III	ESCHERICHIA COLI	10-37	117-144							
PRNE_ECOLI	RIBONUCLEASE E	ESCHERICHIA COLI	413-440	628-662							
PRNP7A_BUCAP	RIBONUCLEASE P PROTEIN COMPONENT	BUCHNERA APHIDICOLA	85-114								
PRNP8_BACSU	RIBONUCLEASE PH	BACILLUS SUBTILIS	159-186								
PRNS_ECOLI	REGULATORY PROTEIN RNS	ESCHERICHIA COLI	116-160								
PRN_BACCI	RIBONUCLEASE	BACILLUS CIRCULANS	82-109								
PRN_BACIN	RIBONUCLEASE PRECURSOR	BACILLUS INTERMEDIUS	38-72								
PRP28_BACTK	RNA POLYMERASE SIGMA-28 FACTOR PRECURSOR	BACILLUS THURINGIENSIS	73-107								
PRP32_CITER	RNA POLYMERASE SIGMA-32 FACTOR	CITROBACTER FREUNDII	30-57								
PRP35_BACTK	RNA POLYMERASE SIGMA-35 FACTOR PRECURSOR	BACILLUS THURINGIENSIS	8-35	63-90							
PRP34_ALCEU	RNA POLYMERASE SIGMA-34 FACTOR	ALCALIGENES EUTROPHUS	229-266								
PRP34_AZOCU	RNA POLYMERASE SIGMA-34 FACTOR	AZORHIZOBIIUM CAULINODANS	174-208								
PRP34_BACSU	RNA POLYMERASE SIGMA-34 FACTOR	BACILLUS SUBTILIS	16-43	97-124	274-308	396-423					
PRP34_BRAJA	RNA POLYMERASE SIGMA-34 FACTOR 1	BRADYRHIZOBIIUM JAPONICUM	97-124								
PRP34_KLEPN	RNA POLYMERASE SIGMA-34 FACTOR	KLEBSIELLA PNEUMONIAE	148-182								
PRP34_RHOCA	RNA POLYMERASE SIGMA-34 FACTOR	RHODOBACTER CAPSULATUS	155-185								
PRP35_BRAJA	RNA POLYMERASE SIGMA-34 FACTOR 2	BRADYRHIZOBIIUM JAPONICUM	145-172								
PRP3M_ALCEU	PROBABLE SIGMA(34) MODULATION PROTEIN	ALCALIGENES EUTROPHUS	21-51								
PRP3M_ECOLI	PROBABLE SIGMA(34) MODULATION PROTEIN	ESCHERICHIA COLI	21-67								
PRP3M_SALTY	PROBABLE SIGMA(34) MODULATION PROTEIN	SALMONELLA TYPHIMURIUM	21-67								
PRP70_BUCAP	RNA POLYMERASE SIGMA-70 FACTOR	BUCHNERA APHIDICOLA	69-96	109-136	173-217	228-255	303-337				
PRP70_CHLTR	RNA POLYMERASE SIGMA-70 FACTOR	CHLAMYDIA TRACHOMATIS	5-32								
PRP70_ECOLI	RNA POLYMERASE SIGMA-70 FACTOR	ESCHERICHIA COLI	327-361								
PRP70_PSEAE	RNA POLYMERASE SIGMA-70 FACTOR	PSEUDONONAS AERUGINOSA	334-368								
PRP70_RICPR	RNA POLYMERASE SIGMA-70 FACTOR	RICKETTSIA PROWAZEKII	244-321	348-382							
PRP80_MYXXA	RNA POLYMERASE SIGMA-80 FACTOR	MYXOCOCCUS XANTHUS	208-235	318-347	359-386						
PRPCF_SYNPY	BILIN BIOSYNTHESIS PROTEIN PCF	SYNECHOCOCCUS SP	180-207								
PRPOA_BACSU	DNA-DIRECTED RNA POLYMERASE ALPHA CHAIN	BACILLUS SUBTILIS	55-107								
PRPOA_ECOLI	A-DIRECTED RNA POLYMERASE ALPHA CHAIN	ESCHERICHIA COLI &	57-105								
PRPOA_HALHA	DNA-DIRECTED RNA POLYMERASE SUBUNIT A	SALMONELLA TYPHIMURIUM									
PRPOA_HALMO	A-DIRECTED RNA POLYMERASE SUBUNIT A	HALOBACTERIUM HALOBIIUM	863-904								
PRPOA_METTH	DNA-DIRECTED RNA POLYMERASE SUBUNIT A	HALOCOCCUS MORRHUAE	229-270								
PRPOA_SULAC	DNA-DIRECTED RNA POLYMERASE SUBUNIT A	METHANOBACTERIUM THERMOAUTOTROPHICUM	218-245	486-513	642-669						
PRPOA_THECE	DNA-DIRECTED RNA POLYMERASE SUBUNIT A	SULFOLOBUS ACIDOCALDARIUS	222-256	500-527	693-720						
PRPOB_ECOLI	DNA-DIRECTED RNA POLYMERASE BETA CHAIN	ESCHERICHIA COLI	228-262								
PRPOB_MYCLE	DNA-DIRECTED RNA POLYMERASE BETA CHAIN	MYCOBACTERIUM LEPRAE	599-626	1011-1038							
PRPOB_SALTY	A-DIRECTED RNA POLYMERASE BETA CHAIN	SALMONELLA TYPHIMURIUM	723-760	1084-1111							
PRPOB_SULAC	A-DIRECTED RNA POLYMERASE SUBUNIT B	SULFOLOBUS ACIDOCALDARIUS	599-626	938-965	1011-1038						
PRPOB_THEMA	DNA-DIRECTED RNA POLYMERASE BETA CHAIN	SULFOLOBUS ACIDOCALDARIUS	160-187	255-282	534-561	827-861					
PRPOC_ANASP	DNA-DIRECTED RNA POLYMERASE GAMMA CHAIN	THERMOTOGA MARITIMA	350-377								
PRPOC_ECOLI	DNA-DIRECTED RNA POLYMERASE BETA CHAIN	ANABAENA SP	152-194								
PRPOC_HALHA	DNA-DIRECTED RNA POLYMERASE SUBUNIT C	ESCHERICHIA COLI	786-813	948-994	1223-1257						
PRPOC_HALMO	DNA-DIRECTED RNA POLYMERASE SUBUNIT C	HALOBACTERIUM HALOBIIUM	175-202								
PRPOC_METTH	DNA-DIRECTED RNA POLYMERASE SUBUNIT C	HALOCOCCUS MORRHUAE	27-54	117-144	207-234						
PRPOC_MYCLE	DNA-DIRECTED RNA POLYMERASE BETA CHAIN	METHANOBACTERIUM THERMOAUTOTROPHICUM	58-85	272-302	327-354						
PRPOC_NOSCO	DNA-DIRECTED RNA POLYMERASE GAMMA CHAIN	MYCOBACTERIUM LEPRAE	273-300	860-887	911-938	1131-1158					
PRPOC_SULAC	DNA-DIRECTED RNA POLYMERASE SUBUNIT C	NOSTOC COMMUNE	150-192								
PRPOC_THECE	DNA-DIRECTED RNA POLYMERASE SUBUNIT A	SULFOLOBUS ACIDOCALDARIUS	36-63	172-214	224-251						
PRPOD_NOSCO	DNA-DIRECTED RNA POLYMERASE DELTA CHAIN	THERMOCOCCUS CELER	21-58								
PRPOE_ECOLI	RNA POLYMERASE SIGMA-E FACTOR	NOSTOC COMMUNE	72-116	402-449	539-566						
PRPOS_ECOLI	RNA POLYMERASE SIGMA FACTOR KATF	ESCHERICHIA COLI	5-39								
PRPOU_HALHA	DNA-DIRECTED RNA POLYMERASE SUBUNIT B	ESCHERICHIA COLI	281-308								
PRPSA_AGRTU	RNA POLYMERASE SIGMA-A FACTOR	HALOBACTERIUM HALOBIIUM	91-118								
PRPSA_ANASP	RNA POLYMERASE SIGMA-A FACTOR	AGROBACTERIUM TUMEFACIENS	310-347	397-427							
PRPSA_CLOAB	RNA POLYMERASE SIGMA-A FACTOR	ANABAENA SP	71-105								
PRPSA_STRAU	RNA POLYMERASE SIGMA-A FACTOR	CLOSTRIDIUM ACETOBIUTYLICUM	2-29								
		STREPTOMYCES AUREOFACIENS	278-303								

PGENE	107178.4	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PRSB ANASP	RNA POLYMERASE SIGMA-B FACTOR	ANABAENA SP	4-31								
PRSB BACSU	RNA POLYMERASE SIGMA-B FACTOR	BACILLUS SUBTILIS	5-35	169-196	200-210						
PRSB MYXXA	RNA POLYMERASE SIGMA-B FACTOR	MYXOCOCCUS XANTHUS	47-74								
PRSB STIAU	RNA POLYMERASE SIGMA-B FACTOR	STIGMATELLA AURANTIACA	96-123								
PRSC ANASP	RNA POLYMERASE SIGMA-C FACTOR	ANABAENA SP	58-85								
PRSD BACSU	RNA POLYMERASE SIGMA-D FACTOR	BACILLUS SUBTILIS	192-249								
PRSE CLOAB	RNA POLYMERASE SIGMA-E FACTOR	CLOSTRIDIUM ACETOBYTILICUM	61-90								
PRSF BACLI	RNA POLYMERASE SIGMA-F FACTOR	BACILLUS LICHENIFORMIS	14-41	116-160							
PRSF BACME	RNA POLYMERASE SIGMA-F FACTOR	BACILLUS NEGATERIUM	4-31	191-248							
PRSF BACSU	RNA POLYMERASE SIGMA-F FACTOR	BACILLUS SUBTILIS	191-225								
PRSH BACSU	RNA POLYMERASE SIGMA-H FACTOR	BACILLUS SUBTILIS	4-31	191-248							
PRSH BACLI	RNA POLYMERASE SIGMA-H FACTOR	BACILLUS LICHENIFORMIS	191-218								
PRSK BACSU	RNA POLYMERASE SIGMA-K FACTOR	BACILLUS SUBTILIS	186-213								
PRSP STAAU	RNA POLYMERASE SIGMA-PLAC	STAPHYLOCOCCUS AUREUS	75-109	189-216							
PRSW STRCO	RNA POLYMERASE SIGMA FACTOR WHIG	STREPTOMYCES COELICOLOR	19-46								
PRSX BACTK	POSSIBLE RNA POLYMERASE SIGMA-G FACTOR	BACILLUS THURINGIENSIS	232-273								
PRSD ECOLI	30S RIBOSOMAL PROTEIN S10	ESCHERICHIA COLI	33-60								
PRSI BACSU	30S RIBOSOMAL PROTEIN S11	BACILLUS SUBTILIS	3-20								
PRSI BACSU	30S RIBOSOMAL PROTEIN S13	BACILLUS SUBTILIS	8-42								
PRSI METVA	30S RIBOSOMAL PROTEIN S17	METHANOCOCCUS VANNIELII	44-85								
PRSI ECOLI	30S RIBOSOMAL PROTEIN S1	ESCHERICHIA COLI	34-73								
PRSI PROSP	30S RIBOSOMAL PROTEIN S1	PROVIDENCIA SP	99-126	144-171							
PRSI RHIME	30S RIBOSOMAL PROTEIN S1	RHIZOBIUM MELLIOTI	39-46	265-292	349-376						
PRSI BACST	30S RIBOSOMAL PROTEIN S21	BACILLUS STEAROTHERMOPHILUS	91-125	172-217							
PRSI SPICI	30S RIBOSOMAL PROTEIN S2	SPIROPLASMA CITRI	1-28								
PRSI ACHLA	30S RIBOSOMAL PROTEIN S3	ACHOLEPLASMA LAIDLAWII	91-125								
PRSI MYCCA	30S RIBOSOMAL PROTEIN S3	MYCOPLASMA CAPRICOLUM	83-110								
PRSI MYCCA	30S RIBOSOMAL PROTEIN S4	MYCOPLASMA CAPRICOLUM	77-106	136-163							
PRSI ECOLI	30S RIBOSOMAL PROTEIN S5	ESCHERICHIA COLI	50-77								
PRSI HALMA	30S RIBOSOMAL PROTEIN S5	HALOARCTULA MARISMORTUI	160-187								
PRSI MYCCA	30S RIBOSOMAL PROTEIN S5	MYCOPLASMA CAPRICOLUM	35-62	182-216							
PRSI THETH	30S RIBOSOMAL PROTEIN S6	THERMUS AQUATICUS	16-43								
PRSI METVA	30S RIBOSOMAL PROTEIN S7	METHANOCOCCUS VANNIELII	69-96								
PRSI MYCLE	30S RIBOSOMAL PROTEIN S7	MYCOBACTERIUM LEPRAE	22-49								
PRSI MICLU	30S RIBOSOMAL PROTEIN S8	MICROCOCCUS LUTEUS	103-130								
PRSI MYCCA	30S RIBOSOMAL PROTEIN S8	MYCOPLASMA CAPRICOLUM	41-78								
PRSGA ECOLI	FERRITIN LIKE PROTEIN	ESCHERICHIA COLI	80-107								
PRG7 ECOLI	RNA-DIRECTED DNA POLYMERASE	ESCHERICHIA COLI	225-268								
PSACB BACAM	LEVANSUCRASE PRECURSOR	BACILLUS AMYLOLIQUEFACIENS	175-202	254-281							
PSACB BACSU	LEVANSUCRASE PRECURSOR	BACILLUS SUBTILIS	175-202	254-288							
PSACB STRMU	LEVANSUCRASE PRECURSOR	STREPTOCOCCUS MUTANS	31-65	155-189	314-369						
PSACQ BACLI	SACQ REGULATORY FACTOR	BACILLUS LICHENIFORMIS	2-46								
PSACT BACSU	SACQ OPERON ANTITERMINATOR	BACILLUS SUBTILIS	102-129	189-216							
PSAGP STRPY	STREPTOCOCCAL ACID GLYCOPROTEIN	STREPTOCOCCUS PYOGENES	294-331	362-389							
PSAOX BACSN	SARCOSINE OXIDASE	BACILLUS SP	350-377								
PSAS2 CLOBI	SPORE PROTEIN	CLOSTRIDIUM BIFERMENTANS	17-47								
PSAS2 BACCE	SPORE PROTEIN GAMMA-TYPE	BACILLUS CEREUS	31-58								
PSAS2 BACST	SPORE PROTEIN GAMMA-TYPE	BACILLUS STEAROTHERMOPHILUS	37-64								
PSBCC ECOLI	EXONUCLEASE SBCC	ESCHERICHIA COLI	218-260	337-364	535-585	622-656	778-812	821-865	915-942		
PSBCD ECOLI	EXONUCLEASE SBCC	ESCHERICHIA COLI	137-164	334-397							
PSBM ECOLI	SBM PROTEIN	ESCHERICHIA COLI	5-32	436-470	553-580						
PSBP BACSU	SBP PROTEIN	BACILLUS SUBTILIS	28-55								
PSCPA STRPY	CIA PEPTIDASE PRECURSOR	STREPTOCOCCUS PYOGENES	126-160	784-811	831-880						
PSCRB KLEPN	SUCROSE-6-PHOSPHATE HYDROLASE	KLEBSIELLA PNEUMONIAE	174-201								
PSCRB LACLA	SUCROSE-6-PHOSPHATE HYDROLASE	LACTOCOCCUS LACTIS	182-217	354-385	395-422						
PSCRB STRMU	SUCROSE-6-PHOSPHATE HYDROLASE	STREPTOCOCCUS MUTANS	335-362								
PSCRK SALTH	FRUCTOKINASE	SALMONELLA THOMPSON	97-124								

PCGENE	1071784	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	185-210	240-267							
PSCKR_SALTY	FRUCTOKINASE	SALMONELLA TYPHIMURUM	185-210	240-267							
PSCKR_KLEPN	SUCROSE PORIN PRECURSOR	KLEBSIELLA PNEUMONIAE	61-88	240-267							
PSCKR_SALTY	SUCROSE PORIN PRECURSOR	SALMONELLA TYPHIMURUM	16-34	61-88	240-267						
PSECA_BACSU	PREPROTEIN TRANSLOCASE SECA SUBUNIT	BACILLUS SUBTILIS	12-39	226-260							
PSECA_ECOLI	PREPROTEIN TRANSLOCASE SECA SUBUNIT	ESCHERICHIA COLI	360-387	453-481							
PSECB_ECOLI	PROTEIN-EXPORT PROTEIN SECB	ESCHERICHIA COLI	41-68								
PSECD_ECOLI	PROTEIN-EXPORT MEMBRANE PROTEIN SECD	ESCHERICHIA COLI	46-73	378-412							
PSECF_ECOLI	PROTEIN-EXPORT MEMBRANE PROTEIN SECF	ESCHERICHIA COLI	174-201								
PSECY_ECOLI	PREPROTEIN TRANSLOCASE SECY SUBUNIT	ESCHERICHIA COLI	101-128								
PSECY_LACLA	PREPROTEIN TRANSLOCASE SECY SUBUNIT	LACTOCOCCUS LACTIS	401-430								
PSECY_METVA	PREPROTEIN TRANSLOCASE SECY SUBUNIT	METHANOCOCCUS VANNIELII	131-161	396-423							
PSECY_STACA	PREPROTEIN TRANSLOCASE SECY SUBUNIT	STAPHYLOCOCCUS CARNOBUS	149-191								
PSEFC_SALEN	DEFECT PROTEIN PRECURSOR	SALMONELLA ENTERITIDIS	137-164	475-535							
PSEKA_BACSU	D-1-PHOSPHOGLYCERATE DEHYDROGENASE	BACILLUS SUBTILIS	16-43	347-374							
PSFAA_ECOLI	S-FIMBRIAL PROTEIN SUBUNIT PRECURSOR	ESCHERICHIA COLI	11-38								
PSFSA_ECOLI	SUGAR FERMENTATION STIMULATION PROTEIN	ESCHERICHIA COLI	81-115								
PSFUA_SERMA	IRON-TRANSPORT SFUA PROTEIN PRECURSOR	SERRATIA MARCESCENS	34-61								
PSHUI_ECOLI	SHUFFLON PROTEIN A	ESCHERICHIA COLI	224-262								
PSHU2_ECOLI	SHUFFLON PROTEIN A'	ESCHERICHIA COLI	224-262								
PSHU3_ECOLI	SHUFFLON PROTEIN B	ESCHERICHIA COLI	224-262								
PSHU4_ECOLI	SHUFFLON PROTEIN B'	ESCHERICHIA COLI	224-262								
PSHU5_ECOLI	SHUFFLON PROTEIN C	ESCHERICHIA COLI	224-262	402-429							
PSHU6_ECOLI	SHUFFLON PROTEIN C	ESCHERICHIA COLI	224-262								
PSHU7_ECOLI	SHUFFLON PROTEIN D	ESCHERICHIA COLI	224-262								
PSINR_BACLI	SINR PROTEIN	BACILLUS LICHENIFORMIS	9-36	43-80							
PSINR_BACSU	SINR PROTEIN	BACILLUS SUBTILIS	9-36	43-70							
PSLAP_ACEKI	CELL SURFACE PROTEIN PRECURSOR	ACETOGENUM KIVUI	237-264	282-309	313-453	458-489	517-544	563-593	641-685	726-753	
PSLPA_ECOLI	PROPHAGE CPA-57 INTEGRASE	ESCHERICHIA COLI	93-136								
PSMF_ECOLI	SMF PROTEIN	ESCHERICHIA COLI	24-51								
PSMPB_ECOLI	SMALL PROTEIN B	ESCHERICHIA COLI	27-61	90-117							
PSNP_ECOLI	SNIP PROTEIN PRECURSOR	ESCHERICHIA COLI	71-98								
PSMTB_SYN7	TRANSCRIPTIONAL REPRESSOR SMTB	SYNECHOCOCCUS SP	62-96								
PSODF_COXBU	SUPEROXIDE DISMUTASE	COXIELLA BURNETII	116-143								
PSODF_ECOLI	SUPEROXIDE DISMUTASE	ESCHERICHIA COLI	115-142								
PSODF_METH	SUPEROXIDE DISMUTASE	METHANOBACTERIUM THERMAUTOTROPHICUM	25-52								
PSODF_PHOLE	SUPEROXIDE DISMUTASE	PHOTOBACTERIUM LEIGNATHII	22-63								
PSODM_PROFR	SUPEROXIDE DISMUTASE	PROFIBRILLINUM FREUDENKREI	164-191								
PSOHB_ECOLI	SOHB PROTEIN PRECURSOR	ESCHERICHIA COLI	7-48	70-97	273-300						
PSOPB_ECOLI	SOPB PROTEIN	ESCHERICHIA COLI	252-279								
PSOXR_ECOLI	SOXR PROTEIN	ESCHERICHIA COLI	16-63								
PSPJ_BACSU	STAGE II SPORULATION PROTEIN J	BACILLUS SUBTILIS	131-158								
PSPJ_A_BACME	STAGE II SPORULATION PROTEIN AA	BACILLUS MEGATERIUM	19-53								
PSPJ_A_BACSU	STAGE II SPORULATION PROTEIN AA	BACILLUS SUBTILIS	21-55								
PSPJ_B_BACLI	STAGE II SPORULATION PROTEIN AB	BACILLUS LICHENIFORMIS	42-69								
PSPJ_B_BACME	STAGE II SPORULATION PROTEIN AB	BACILLUS MEGATERIUM	36-73								
PSPJ_D_BACSU	STAGE II SPORULATION PROTEIN D	BACILLUS SUBTILIS	134-161								
PSPJ_G_BACTK	POSSIBLE ASPARTYL PROTEASE	BACILLUS THURINGIENSIS	4-36	117-144							
PSPJ_J_BACSU	STAGE II SPORULATION PROTEIN J	BACILLUS SUBTILIS	14-44	463-500							
PSPJ_D_BACSU	STAGE III SPORULATION PROTEIN D	BACILLUS SUBTILIS	9-36	52-86							
PSPJ_J_BACSU	STAGE III SPORULATION PROTEIN J	BACILLUS SUBTILIS	44-75								
PSPJ_A_BACSU	STAGE IV SPORULATION PROTEIN A	BACILLUS SUBTILIS	139-180								
PSPJ_B_BACSU	STAGE IV SPORULATION PROTEIN B	BACILLUS SUBTILIS	39-66								
PSPJ_G_BACSU	STAGE IV SPORULATION PROTEIN G	BACILLUS SUBTILIS	251-278								
PSPJ_A_BACSU	STAGE V SPORULATION PROTEIN A	BACILLUS SUBTILIS	9-36								
PSPJ_A_BACSU	STAGE V SPORULATION PROTEIN A	BACILLUS SUBTILIS	184-218								
PSPJ_A_BACSU	STAGE V SPORULATION PROTEIN A	BACILLUS SUBTILIS	181-208								
PSPJ_A_BACSU	STAGE V SPORULATION PROTEIN A	BACILLUS SUBTILIS	311-338								

PCGENE	1071178.4	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILE NAME	PROTEIN	ORGANISM									
PSPAK_BACSU	SENSOR PROTEIN SPAK	BACILLUS SUBTILIS	80-107	224-231	290-324						
PSPAP_STRMU	CELL SURFACE ANTIGEN I/II PRECURSOR	STREPTOCOCCUS MUTANS	122-276	281-465	538-565	576-630	1071-1098	1155-1182	1377-1430		
PSPAR_BACSU	REGULATORY PROTEIN	BACILLUS SUBTILIS	4-31	172-199							
PSPAT_BACSU	SUBTILIN TRANSPORT PROTEIN SPAT	BACILLUS SUBTILIS	55-82	226-267							
PSPEC_STRPY	EXOTOXIN TYPE C PRECURSOR	STREPTOCOCCUS PYOGENES	12-39								
PSPIR_SPICI	SPIRALIN	STREPTOCOCCUS PYOGENES	82-109	155-182							
PSPIR_SPIKE	SPIRALIN	STREPTOCOCCUS PYOGENES	195-222								
PSPT_ECOLI	GUAN-3'-5'-BIS(DIPHOS) 3'-PYROPHOSPHOHYDROLA	ESCHERICHIA COLI	637-664								
PSPPA_ECOLI	PROTEASE IV	ESCHERICHIA COLI	278-305								
PSQHC_ZYMOH	SQUALENE-HOPENE CYCLASE	ZYMONONAS MOBILIS	590-617								
PSRFA_BACSU	SURFACTIN SYNTHETASE SUBUNIT A	BACILLUS SUBTILIS	159-186								
PSRP5_ECOLI	SIGNAL RECOGNITION PARTICLE PROTEIN	ESCHERICHIA COLI	301-323								
PSRP5_MYOMY	SIGNAL RECOGNITION PARTICLE PROTEIN	MYCOPLASMA MYCOIDES	21-65	107-141	394-428						
PSSA1_PASHA	SEROTYPE-SPECIFIC ANTIGEN I PRECURSOR	PASTEURILLA HAEMOLYTICA	151-178	358-385	465-518	529-570	860-904				
PSSAB_STRPA	ADHESIN B PRECURSOR	STREPTOCOCCUS PARASANGUIS	32-59								
PSSAB_STRSA	ADHESIN B PRECURSOR	STREPTOCOCCUS SANGUIS	21-59	101-128							
PSSB_ECOLI	SINGLE-STRAND BINDING PROTEIN	ESCHERICHIA COLI	68-95								
PSSB_PROMI	SINGLE-STRAND BINDING PROTEIN	PROTEUS MIRABILIS	63-104								
PSSB_SERMA	SINGLE-STRAND BINDING PROTEIN	SERRATIA MARCESCENS	63-104								
PSSP5_STRSA	AGGLUTININ RECEPTOR PRECURSOR	STREPTOCOCCUS SANGUIS	131-173	178-287	295-483	565-592	676-710	1081-1131			
PSTAV_STRAV	STREPTAVIDIN PRECURSOR	STREPTOMYCES AVIDINII	125-152								
PSTA_ECOLI	STREPTOTHRONIN ACETYL-TRANSFERASE	ESCHERICHIA COLI	66-93								
PSTCI_STAAU	STAPHYLOCOAGULASE PRECURSOR	STAPHYLOCOCCUS AUREUS	90-119	172-199	280-311						
PSTC1_STAAU	STAPHYLOCOAGULASE PRECURSOR	STAPHYLOCOCCUS AUREUS	90-117	264-291							
PSTC_CLOBE	L-TRANS TRANS CONTROL PROTEIN	CLOSTRIDIUM BEIJERINCKII	47-74								
PSTPA_ECOLI	STPA PROTEIN	ESCHERICHIA COLI	36-63								
PSTR1_STRGR	INOSAMINE-PHOSPHATE AMIDINOTRANSFERASE I	STREPTOMYCES GRISEUS	183-210								
PSTRP_STRQV	STREPTOKINASE C PRECURSOR	STREPTOCOCCUS EQUISIMILIS	209-236	281-308							
PSTRP_STRPY	STREPTOKINASE A PRECURSOR	STREPTOCOCCUS PYOGENES	209-236								
PSTRP_STRSP	STREPTOKINASE G PRECURSOR	STREPTOCOCCUS SP	209-236	281-308							
PSUBE_BACSU	MINOR EXTRACELLULAR PROTEASE EPR PREC	BACILLUS SUBTILIS	435-462	522-563	605-639						
PSUBF_BACSU	BACILLOPEPTIDASE F PRECURSOR	BACILLUS SUBTILIS	40-67	89-116	121-148	554-597					
PSUBI_SALTY	SULFATE-BINDING PROTEIN	SALMONELLA TYPHIMURUM	37-74								
PSUBI_SYNPT	SULFATE-BINDING PROTEIN PRECURSOR	SYNECHOCYSTIS SP	64-91								
PSUBI_SYNV1	SULFATE-BINDING PROTEIN PRECURSOR	SYNECHOCYSTIS SP	64-91								
PSUBT_BACLI	SUBTILISIN CARLSBERG PRECURSOR	BACILLUS LICHENIFORMIS	191-222								
PSUBT_BACMS	SUBTILISIN	BACILLUS MENSENERICUS	91-118								
PSUBT_BACSP	SUBTILISIN PRECURSOR	BACILLUS SP	36-63	250-277							
PSUBT_BACSA	SUBTILISIN AMYLOSACCHARITICUS PRECURSOR	BACILLUS SUBTILIS	197-224								
PSUBT_BACSD	SUBTILISIN	BACILLUS SUBTILIS	86-117								
PSUBT_BACST	SUBTILISIN I PRECURSOR	BACILLUS STEAROTHERMOPHILUS	197-224								
PSUBT_BACSU	SUBTILISIN E PRECURSOR	BACILLUS SUBTILIS	197-224								
PSUBIV_BACSU	MINOR EXTRACELLULAR PROTEASE VPR PRECUR	BACILLUS SUBTILIS	55-108	613-654	741-768						
PSUCC_ECOLI	SUCCINYL-COA SYNTHETASE BETA	ESCHERICHIA COLI	62-89								
PSUCP_AGRVI	SUCROSE PHOSPHORYLASE	AGROBACTERIUM VITIS	449-476								
PSULA_ENTAE	CELL DIVISION INHIBITOR	ENTEROBACTER AEROGENES	112-139								
PSYA_ECOLI	ALANYL-TRNA SYNTHETASE	ESCHERICHIA COLI	257-287	735-752	790-821						
PSYD_ECOLI	ASPARTYL-TRNA SYNTHETASE	ESCHERICHIA COLI	330-357								
PSYE_BACST	GLUTAMYL-TRNA SYNTHETASE	BACILLUS STEAROTHERMOPHILUS	49-76								
PSYE_BACQU	GLUTAMYL-TRNA SYNTHETASE	BACILLUS SUBTILIS	49-76	351-386							
PSYE_THIETH	GLUTAMYL-TRNA SYNTHETASE	THERMUS AQUATICUS	405-432								
PSYFA_BACSU	PHENYLALANYL-TRNA SYNTHETASE A CHAIN	BACILLUS SUBTILIS	7-34								
PSYFB_BACSU	PHENYLALANYL-TRNA SYNTHETASE BETA CHAIN	BACILLUS SUBTILIS	340-367	407-441							
PSYFB_ECOLI	PHENYLALANYL-TRNA SYNTHETASE BETA CHAIN	ESCHERICHIA COLI	546-573	607-634	744-771						
PSYGB_ECOLI	GLYCYL-TRNA SYNTHETASE BETA CHAIN	ESCHERICHIA COLI	354-381	487-514							
PSYH_STRQV	HISTIDYL-TRNA SYNTHETASE	STREPTOCOCCUS EQUISIMILIS	376-403								
PSYT_METTH	ISOLEUCYL-TRNA SYNTHETASE	METHANOBACTERIUM THERMOAUTOTROPHICUM	1010-1037								

PCGENE	107a178a4	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILENAME	PROTEIN	ORGANISM	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
PSYK1_ECOLI	LYSYL-TRNA SYNTHETASE	ESCHERICHIA COLI	283-310								
PSYK2_ECOLI	LYSYL-TRNA SYNTHETASE, HEAT INDUCIBLE	ESCHERICHIA COLI	45-72	283-310							
PSYL1_ECOLI	LEUCYL-TRNA SYNTHETASE	ESCHERICHIA COLI	220-247								
PSYM1_BACST	METHIONYL-TRNA SYNTHETASE	BACILLUS STEAROTHERIOPHILUS	69-99								
PSYM1_ECOLI	METHIONYL-TRNA SYNTHETASE	ESCHERICHIA COLI	87-124								
PSYP1_ECOLI	PROLYL-TRNA SYNTHETASE	ESCHERICHIA COLI	541-568								
PSYQ1_ECOLI	GLUTAMINYL-TRNA SYNTHETASE	ESCHERICHIA COLI	394-421								
PSYRD_PSEY	SYRD PROTEIN	PSUDOMONAS SYRINGAE	449-483								
PSYR1_ECOLI	ARGINYL-TRNA SYNTHETASE	ESCHERICHIA COLI	540-574								
PSYT1_BACSU	THREONYL-TRNA SYNTHETASE	BACILLUS SUBTILIS	401-428	605-639							
PSYV1_BACST	VALYL-TRNA SYNTHETASE	BACILLUS STEAROTHERIOPHILUS	603-630	809-843							
PSYV1_ECOLI	VALYL-TRNA SYNTHETASE	ESCHERICHIA COLI	300-327	882-912	924-951						
PSYW1_BACST	TRYPTOPHANYL-TRNA SYNTHETASE	BACILLUS STEAROTHERIOPHILUS	204-231	239-266							
PSYV1_BACSU	TYROSYL-TRNA SYNTHETASE 1	BACILLUS SUBTILIS	81-115	375-409							
PSYV2_BACSU	TYROSYL-TRNA SYNTHETASE 2	BACILLUS SUBTILIS	69-96								
PSYV1_BACST	TYROSYL-TRNA SYNTHETASE	BACILLUS CALDOTTENAX	295-322	372-416							
PTIM1_ECOLI	ENZYME ECOR1240 I M PROTEIN	BACILLUS STEAROTHERIOPHILUS	295-322	372-416							
PTIR1_ECOLI	ENZYME ECOR1240 I R PROTEIN	ESCHERICHIA COLI	126-167	405-432							
PTIR1_ECOLI	ENZYME ECOR1240 I R PROTEIN	ESCHERICHIA COLI	30-57	624-651	702-736	768-795	843-870	966-1000			
PTIR1_ECOLI	ENZYME ECOR1240 I R PROTEIN	ESCHERICHIA COLI	158-263								
PTIS1_ECOLI	ENZYME ECOR1240 I SPECIFICITY PROTEIN	ESCHERICHIA COLI	154-181								
PTISA_ECOLI	ENZYME ECOA I SPECIFICITY PROTEIN	ESCHERICHIA COLI	279-306								
PTISB_ECOLI	ENZYME ECOB I SPECIFICITY PROTEIN	ESCHERICHIA COLI	278-312								
PTISD_ECOLI	ENZYME ECOD I SPECIFICITY PROTEIN	ESCHERICHIA COLI	249-283								
PTISE_ECOLI	ENZYME ECOE I SPECIFICITY PROTEIN	ESCHERICHIA COLI	279-306								
PTIS1_SALPO	ENZYME SPECIFICITY PROTEIN	SALMONELLA POTSDAM	306-423								
PTIS1_SALTY	ENZYME SPECIFICITY PROTEIN	SALMONELLA TYPHIMURUM	194-221	276-304	402-429						
PTZ37_ECOLI	TYPE II RESTRICTION ENZYME ECO37I	ESCHERICHIA COLI	138-196	265-295	406-440	639-682	687-728	926-954			
PTZAI_ACICA	TYPE II RESTRICTION ENZYME ACCI	ACINETOBACTER CALCOACETICUS	49-76								
PTZBF_BACSU	TYPE II RESTRICTION ENZYME BSUF I	BACILLUS SUBTILIS	3-43	135-223	236-280						
PTZBR_BACSU	TYPE II RESTRICTION ENZYME BSUR I	BACILLUS SUBTILIS	3-45	338-384	401-430	532-559					
PTZC1_CITR	TYPE II RESTRICTION ENZYME CEB I	CITROBACTER FREUNDII	35-62								
PTZC1_HERAU	TYPE II RESTRICTION ENZYME HGCI I	HERPETOSPHON AURANTIACUS	176-215								
PTZC2_HERAU	TYPE II RESTRICTION ENZYME HGCI I	HERPETOSPHON AURANTIACUS	243-273								
PTZD1_DESDN	TYPE II RESTRICTION ENZYME DDEI I	DESULFOVIBRIO DESULFURICANS	85-122								
PTZD1_STRPN	TYPE II RESTRICTION ENZYME DPN I	STREPTOCOCCUS PNEUMONIAE	213-240								
PTZEL_ECOLI	TYPE II RESTRICTION ENZYME ECOL I	ESCHERICHIA COLI	2-29								
PTZEL_ECOLI	TYPE II RESTRICTION ENZYME ECOL I	ESCHERICHIA COLI	333-360								
PTZB3_ECOLI	TYPE II RESTRICTION ENZYME ECOL V	ESCHERICHIA COLI	128-155	214-241							
PTZF1_FLAOK	TYPE II RESTRICTION ENZYME FOKI I	FLAVOBACTERIUM OKEANOKOITES	302-336								
PTZH1_HAEIN	TYPE II RESTRICTION ENZYME HINF I	HAEMOPHILUS INFLUENZAE	6-38	60-96							
PTZII1_IIMEPA	TYPE II RESTRICTION ENZYME IHPA I	HAEMOPHILUS PARAINFLUENZAE	77-125								
PTZII2_IJAEIIA	TYPE II RESTRICTION ENZYME IHA I	HAEMOPHILUS HAEMOLYTICUS	21-30								
PTZH2_HAEIN	TYPE II RESTRICTION ENZYME HINC I	HAEMOPHILUS INFLUENZAE	97-138								
PTK1_KLEPN	TYPE II RESTRICTION ENZYME KPN I	KLEBSIELLA PNEUMONIAE	18-45	178-205							
PTZM1_MORBO	TYPE II RESTRICTION ENZYME MBO I	MORAXELLA BOVIS	15-61	187-215	225-232						
PTZM2_MORBO	TYPE II RESTRICTION ENZYME MBO II	MORAXELLA BOVIS	3-30	158-185	337-364						
PTZM2_METTF	POSSIBLE TYPE II RESTRICTION ENZYME MTHZ I	METHANOBACTERIUM THERMOPHILICUM	105-151								
PTZNG_NEICO	TYPE II RESTRICTION ENZYME NGOI I	NEISSERIA GONORRHOEA	117-144	231-258							
PTZS1_STRSA	TYPE II RESTRICTION ENZYME STSI	STREPTOCOCCUS SANGUIS	5-32	41-68	395-446						
PTZS2_SHISO	TYPE II RESTRICTION ENZYME SSOI I	SHIGELLA SONNEI	206-243	258-288							
PTZS3_STAUI	TYPE II RESTRICTION ENZYME SAUI I	STAPHYLOCOCCUS AUREUS	70-102								
PTZS1_SATJN	TYPE II RESTRICTION ENZYME SIN I	SALMONELLA INFANTIS	144-181								
PTZSM_SERMA	TYPE II RESTRICTION ENZYME SMAI	SERRATIA MARCESCENS	61-88								
PTZTA_THEAQ	TYPE II RESTRICTION ENZYME TAOI	THERMUS AQUATICUS	147-181	203-237							
PTZMO_ECOLI	SYSTEM ECOPI5 ENZYME MOD	ESCHERICHIA COLI	37-71	236-296	378-405						
PTZRE_BACCE	SYSTEM ENZYME RES	BACILLUS CEREUS	62-89	256-283							

PCGENE	107178.4	Prokaryotic Sequences	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7	AREA.8	AREA.9
FILE NAME	PROTEIN	ORGANISM	26-53								
PTA47 TREPA	47 KD MEMBRANE ANTIGEN PRECURSOR	TREPONEMA PALLIDUM	26-53								
PTA53 TREDE	53 KD MEMBRANE ANTIGEN A PRECURSOR	TREPONEMA DENTICOLA	99-126	298-329							
PTAC3 BACAL	ALVEOLYIN PRECURSOR	BACILLUS ALVEI	272-302	374-401							
PTAC3 CLOPE	PERFERINGOLYIN O PRECURSOR	CLOSTRIDIUM PERFERINGENS	270-311	372-414							
PTAC3 LIVIS	IVANOLYIN PRECURSOR	LISTERIA IVANOVII	93-120	167-195	396-423						
PTAC3 LISMO	LISTERIOLYIN O PRECURSOR	LISTERIA MONOCYTOGENES	98-125	168-196	397-424						
PTAC3 LISSE	SEELIGERIOLYIN PRECURSOR	LISTERIA SEELIGERI	99-126	296-323	349-376	398-463					
PTAC3 STRPN	PNEUMOLYIN	STREPTOCOCCUS PNEUMONIAE	234-272								
PTAC3 STRPY	STREPTOLYIN O PRECURSOR	STREPTOCOCCUS PYOGENES	86-133	355-382	440-470						
PTAGB BACSU	TECHOIC ACID BIOSYN PROTEIN B PREC	BACILLUS SUBTILIS	42-69								
PTAGC BACSU	TECHOIC ACID BIOSYNTHESIS PROTEIN C	BACILLUS SUBTILIS	348-375								
PTAGE BACSU	TECHOIC ACID BIOSYNTHESIS PROTEIN E	BACILLUS SUBTILIS	59-91	144-181	185-243	565-592	600-627				
PTAGF BACSU	TECHOIC ACID BIOSYNTHESIS PROTEIN F	BACILLUS SUBTILIS	182-209								
PTBP1 NEIGO	TRANSFERRIN-BINDING PROTEIN 1 PRECURSOR	NEISSERIA GONORRHOEA	39-73	137-164	398-425	810-841					
PTBUD PSEPI	PHENOL 2-MONOXYGENASE	PSEUDOMONAS PICKETTII	38-65	227-254	375-402						
PTCDT SALTY	TRANSCRIPTIONAL REGULATORY PROTEIN TCDT	SALMONELLA TYPHIMURUM	105-132								
PTCPB VIBCH	MEMBRANE PROTEIN TCPB PRECURSOR	VIBRIO CHOLERAE	20-47	83-128	199-233	263-290	344-375	459-486			
PTCPE VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPE	VIBRIO CHOLERAE	24-59	77-111							
PTCPF VIBCH	TCP PILUS SECRETION PROTEIN TCPF	VIBRIO CHOLERAE	32-66	211-238							
PTCPH VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPH	VIBRIO CHOLERAE	95-122								
PTCPJ VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPJ	VIBRIO CHOLERAE	25-52	214-261	279-306	346-379					
PTCPN VIBCH	TCP PILUS VIRULENCE REGULATORY PROTEIN	VIBRIO CHOLERAE	48-75								
PTCPO VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPO	VIBRIO CHOLERAE	210-257								
PTCPY VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPY	VIBRIO CHOLERAE	121-148								
PTCPZ VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPZ	VIBRIO CHOLERAE	44-85								
PTCR2 BACSU	TETRACYCLINE RESISTANCE PROTEIN	BACILLUS SUBTILIS	404-434								
PTCR BACST	TETRACYCLINE RESISTANCE PROTEIN	BACILLUS STEAROTHERMOPHILUS	422-453								
PTCR STAAU	TETRACYCLINE RESISTANCE PROTEIN	STAPHYLOCOCCUS AUREUS	404-431								
PTCR STRAG	TETRACYCLINE RESISTANCE PROTEIN	STREPTOCOCCUS AGALACTIAE	422-453								
PTCR STRPN	TETRACYCLINE RESISTANCE PROTEIN	STREPTOCOCCUS PNEUMONIAE	422-453								
PTDCA ECOLI	TDCAB OPERON TRANSCRIPTIONAL ACTIVATOR	ESCHERICHIA COLI	210-239								
PTDCC ECOLI	TDCG PROTEIN	ESCHERICHIA COLI	334-361								
PTD66 STRPY	TRYPSIN-RESIST SURFACE T6 PROTEIN PREC	STREPTOCOCCUS PYOGENES	137-164	361-395	400-437						
PTD82 ECOLI	TETRACYCLINE REPRESSOR PROTEIN CLASS B	ESCHERICHIA COLI	8-36								
PTD84 ECOLI	TETRACYCLINE REPRESSOR PROTEIN CLASS D	ESCHERICHIA COLI	183-210								
PTD8A ALGSP	TELLURUM RESISTANCE PROTEIN TERA	ALCALIGENES SP	48-86								
PTD8B ECOLI	ACYL-COA THIOESTERASE II	ESCHERICHIA COLI	4-31								
PTD83 ENTFA	TETRACYCLINE RESISTANCE PROTEIN TETM	ENTEROCOCCUS FAECALIS	2-36	130-159	179-206	217-244					
PTD9 ENTFA	TETRACYCLINE RESISTANCE PROTEIN TETM	ENTEROCOCCUS FAECALIS	2-36	130-159	217-244	260-287					
PTDTC ECOLI	TRANSPOSON TND10 TETC PROTEIN	ESCHERICHIA COLI	72-106	116-158							
PTDTC STRLI	TETRACYCLINE RESISTANCE PROTEIN	STREPTOMYCES LIVIDANS	82-109								
PTDTC UREUR	TETRACYCLINE RESISTANCE PROTEIN TETM	UREAPLASMA UREALYTICUM	2-36	130-159	217-244	260-287					
PTDTC CAMIE	TETRACYCLINE RESISTANCE PROTEIN TETO	CAMPYLOBACTER COLI	2-29								
PTDTC STRMU	TETRACYCLINE RESISTANCE PROTEIN TETO	STREPTOCOCCUS MUTANS	2-29								
PTDTC BACFR	TETRACYCLINE RESISTANCE PROTEIN	BACTEROIDES FRAGILIS	35-62								
PTDTC CLOTE	TETANUS TOXIN PRECURSOR	CLOSTRIDIUM TETANI	274-304	540-567	615-642	692-719	985-1012	1240-1277			
PTDTC PYRWO	TRANS INITIATION FACTOR IIB HOMOLOG	PYROCOCCUS WOESLEI	218-258								
PTDTC ALCEU	CHLOROCATECHOL 1,2-DIOXYGENASE	ALCALIGENES EUTROPHUS	2-33								
PTDTC ECOLI	QUEUINE TRNA-RIBOSYLTRANSFERASE	ESCHERICHIA COLI	173-200								
PTDTH LACLA	THREONINE DEHYDRATASE BIOSYNTHETIC	LACTOCOCCUS LACTIS	267-303								
PTDTH ECOLI	THREONINE DEHYDRATASE CATABOLIC	ESCHERICHIA COLI	293-320								
PTDTH BACSU	FURAN OXIDATION PROTEIN THDF	BACILLUS SUBTILIS	133-180	192-226	282-316	391-418					
PTDTH ECOLI	FURAN OXIDATION PROTEIN THDF	ESCHERICHIA COLI	226-260	404-431							
PTDTH PSEPU	FURAN OXIDATION PROTEIN THDF	PSEUDOMONAS PUTIDA	226-260								
PTDTH BACCE	THERMOLYIN PRECURSOR	BACILLUS CEREUS	4-58	240-267							
PTDTH BACST	THERMOLYIN PRECURSOR	BACILLUS STEAROTHERMOPHILUS	45-72								

PCGENE	10717814	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PTHER_BACTH	THERMOLYSIN	BACILLUS THERMOPROTEOLYTICUS	86-113								
PTHERI_THERVU	THERMOLYASE	THERMOACTINOMYCES VULGARIS	131-161								
PTHIC_ECOLI	THIC PROTEIN	ESCHERICHIA COLI	232-263	301-328							
PTHIG_ECOLI	THIG PROTEIN	ESCHERICHIA COLI	138-165								
PTHP3_SULAC	THERMOPHIN PRECURSOR	SULFOLOBUS ACIDOCALDARIUS	135-172	199-233							
PTHRC_BRELA	THREONINE SYNTHASE	BREVIBACTERIUM LACTOFERMENTUM	288-315								
PTHTR_SACER	PUTATIVE THIOL SULFATE SULFURTRANSFERASE	SACCHAROPOLYSPORA ERYTHRAEA	69-96								
PTIG_ECOLI	TRIGGER FACTOR	ESCHERICHIA COLI	144-171								
PTNPA_TREPA	TREPONEMAL MEMBRANE PROTEIN A PRECURSOR	TREPONEMA PALLIDUM	236-266	322-349							
PTNPB_TREPA	TREPONEMAL MEMBRANE PROTEIN B PRECURSOR	TREPONEMA PALLIDUM	44-71	111-138							
PTNPB_TREPH	TREPONEMAL MEMBRANE PROTEIN B PRECURSOR	TREPONEMA PHAGEDENIS	41-68								
PTNAB_ECOLI	LOW AFFINITY TRYPTOPHAN PERMEASE	ESCHERICHIA COLI	74-108								
PTNP4_STAAU	TRANSPPOSASE	STAPHYLOCOCCUS AUREUS	52-79								
PTNP7_ENTFA	TRANSPPOSON TN917 RESOLVASE	ENTEROCOCCUS FAECALIS	59-97								
PTNPA_STAAU	TRANSPPOSASE A	STAPHYLOCOCCUS AUREUS	151-178								
PTNPB_STAAU	TRANSPPOSASE B	STAPHYLOCOCCUS AUREUS	389-603								
PTNP1_BACTU	TNP1 RESOLVASE	BACILLUS THURINGIENSIS	7-62	174-201							
PTNSB_ECOLI	TRANSPPOSON TN7 TRANSDUCTION PROTEIN TNSB	ESCHERICHIA COLI	99-126	510-537							
PTNSC_ECOLI	TRANSPPOSON TN7 TRANSDUCTION PROTEIN TNSC	ESCHERICHIA COLI	32-59	314-341							
PTNSD_ECOLI	TRANSPPOSON TN7 TRANSDUCTION PROTEIN TNSD	ESCHERICHIA COLI	339-366								
PTNSE_ECOLI	TRANSPPOSON TN7 TRANSDUCTION PROTEIN TNSE	ESCHERICHIA COLI	463-490								
PTOD1_PSEPU	TOLUENE 1,2-DIOXYGENASE ALPHA SUBUNIT	PSEUDOMONAS PUTIDA	36-63								
PTOD2_PSEPU	TOLUENE 1,2-DIOXYGENASE BETA SUBUNIT	PSEUDOMONAS PUTIDA	119-153								
PTODA_PSEPU	TOLUENE 1,2-DIOXYGENASE SYSTEM	PSEUDOMONAS PUTIDA	179-213								
PTODJ_PSEPU	TODF PRODUCT HYDRATASE	PSEUDOMONAS PUTIDA	143-170								
PTOLA_ECOLI	TOLA PROTEIN	ESCHERICHIA COLI	101-138								
PTOLC_ECOLI	OUTER MEMBRANE PROTEIN TOLC PRECURSOR	ESCHERICHIA COLI	144-178	184-211	239-266	348-375					
PTOP1_SYNP7	DNA TOPOISOMERASE I	SYNECHOCOCCUS SP	203-230								
PTORA_ECOLI	TRIMETHYLAMINE-N-OXIDE REDUCTASE	ESCHERICHIA COLI	797-824								
PTOX1_BORPE	PERTUSSIS TOXIN SUBUNIT 1 (S1) PRECURSOR	BORDETELLA PERTUSSIS	179-206								
PTOX2_BORPE	PERTUSSIS TOXIN SUBUNIT 1 (S2) PRECURSOR	BORDETELLA PERTUSSIS	58-85								
PTOXA_CLODI	TOXIN A	CLOSTRIDIUM DIFFICILE	20-88	99-159	204-231	342-369	373-414	847-962	966-994	997-1024	1348-1402
PTOXA_PSEAE	EXOTOXIN A PRECURSOR	PSEUDOMONAS AERUGINOSA	470-497								
PTOXB_CLODI	TOXIN B	CLOSTRIDIUM DIFFICILE	38-72	133-163	199-241	825-869	923-950	1334-1388	1403-1433	1506-1565	1716-1747
PTOX3_VIBCH	TRANSMEMBRANE REGULATORY PROTEIN TOXS	VIBRIO CHOLERAE	13-40								
PTPF1_TREPA	ANTIGEN TPF1	TREPONEMA PALLIDUM	106-143								
PTPIS_ECOLI	TRIOSEPHOSPHATE ISOMERASE	ESCHERICHIA COLI	83-110								
PTPIS_MOKSP	TRIOSEPHOSPHATE ISOMERASE	MORAXELLA SP	139-166								
PTPR_PORGI	THIOL PROTEASE PRECURSOR	PORPHYROMONAS GINGIVALIS	117-144								
PTRM1_AGR73	TRYPTOPHAN 2-MONOOXYGENASE	AGROBACTERIUM TUMEFACIENS	239-266	501-529							
PTRM2_AGR74	TRYPTOPHAN 2-MONOOXYGENASE	AGROBACTERIUM TUMEFACIENS	239-266	501-529							
PTRM3_PSESS	TRYPTOPHAN 2-MONOOXYGENASE	PSEUDOMONAS SYRINGAE	41-68								
PTRA1_STAAU	TRANSPPOSASE	STAPHYLOCOCCUS AUREUS	58-113								
PTRA2_STAAU	TRANSPPOSASE	STAPHYLOCOCCUS AUREUS	11-38	58-113							
PTRA3_ECOLI	TRANSPPOSASE	ESCHERICHIA COLI	721-755								
PTRA3_RHIME	TRANSPPOSASE	RHIZOBIUM MELILOTI	179-206								
PTRA3_STAAU	TRANSPPOSASE	STAPHYLOCOCCUS AUREUS	33-60	68-95							
PTRA4_ECOLI	TRANSPPOSASE	ESCHERICHIA COLI	181-208	308-340	720-754						
PTRA6_ECOLI	TRANSPPOSASE	ESCHERICHIA COLI	51-78								
PTRA6_SHEO	TRANSPPOSASE	SHIGELLA SONNEI	51-78	200-227	231-258						
PTRA7_ECOLI	TRANSPPOSASE	ESCHERICHIA COLI	729-756								
PTRA9_MYTU	PUTATIVE TRANSPPOSASE	MYCOBACTERIUM TUBERCULOSIS	159-186								
PTRAB_BACTB	IS231B PROBABLE TRANSPPOSASE	BACILLUS THURINGIENSIS	281-308	419-446							
PTRAC_BACTB	IS231C PROBABLE TRANSPPOSASE	BACILLUS THURINGIENSIS	281-308	419-446							
PTRAC_STAAU	TRANSPPOSASE	STAPHYLOCOCCUS AUREUS	4-31	45-72							
PTRAX_BACTB	IS231 PROBABLE TRANSPPOSASE	BACILLUS THURINGIENSIS	281-308	419-446							
PTRA_BACTU	TRANSPPOSASE	BACILLUS THURINGIENSIS	93-127	509-539							

PGCENE	10717844	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PTRA_PSEAE	TRANSPOSASE	PSEUDOMONAS AERUGINOSA	127-154	721-755							
PTRB1_ECOLI	TRAB PROTEIN	ESCHERICHIA COLI	113-143								
PTRB2_ECOLI	TRBF PROTEIN	ESCHERICHIA COLI	12-39								
PTRB3_ECOLI	TRBI PROTEIN	ESCHERICHIA COLI	70-97								
PTRC1_ECOLI	TRAC-1 PROTEIN	ESCHERICHIA COLI	1006-1058								
PTRC2_ECOLI	TRAC-2 PROTEIN	ESCHERICHIA COLI	1102-1149								
PTRC3_ECOLI	TRAC-3 PROTEIN	ESCHERICHIA COLI	884-931								
PTRD1_ECOLI	TRAD PROTEIN	ESCHERICHIA COLI	297-348								
PTRE4_ECOLI	PERIPLASMIC TREHALASE PRECURSOR	ESCHERICHIA COLI	362-403	477-508							
PTREC_ECOLI	ANYLOTREHALASE	ESCHERICHIA COLI	280-307								
PTRE1_ECOLI	TRFA TRANSCRIPTIONAL REPRESSOR PROTEIN	ESCHERICHIA COLI	5-32	105-132							
PTRG1_ECOLI	TRAG PROTEIN	ESCHERICHIA COLI	61-88	630-657	831-858	865-895					
PTRG5_ECOLI	TRAG PROTEIN	ESCHERICHIA COLI	196-223								
PTRG6_ECOLI	TRAG PROTEIN	ESCHERICHIA COLI	195-222	518-545							
PTRI1_ECOLI	TRAI PROTEIN	ESCHERICHIA COLI	155-209	597-624	887-914	1350-1377					
PTRI2_ECOLI	TRAI PROTEIN	ESCHERICHIA COLI	155-209	597-624	887-914	1350-1377					
PTRI3_ECOLI	TRAI PROTEIN	ESCHERICHIA COLI	47-74	328-371							
PTRI4_ECOLI	TRAI PROTEIN	ESCHERICHIA COLI	36-63								
PTRI8_ECOLI	TRAM PROTEIN	ESCHERICHIA COLI	5-32								
PTRI9_ECOLI	TRAM PROTEIN	ESCHERICHIA COLI	107-137								
PTRI10_ECOLI	TRNA (URACIL-5-METHYL) TRANSFERASE	ESCHERICHIA COLI	113-142	226-253							
PTRI11_ECOLI	TRNA (GUANINE-N1-METHYL) TRANSFERASE	ESCHERICHIA COLI	220-247								
PTRI12_ECOLI	TRYP TOPHIAN SYNTHASE ALPHA CHAIN	BACILLUS SUBTILIS	241-275								
PTRI13_ECOLI	TRYP TOPHIAN SYNTHASE ALPHA CHAIN	CAULOBACTER CRESCENTUS	176-203								
PTRI14_ECOLI	TRYP TOPHIAN SYNTHASE ALPHA CHAIN	PSEUDOMONAS AERUGINOSA	79-113								
PTRI15_ECOLI	TRYP TOPHIAN SYNTHASE BETA CHAIN	ACINETOBACTER CALCOACETICUS	76-103	318-345							
PTRI16_ECOLI	TRYP TOPHIAN SYNTHASE BETA CHAIN	BACILLUS SUBTILIS	172-199								
PTRI17_ECOLI	TRYP TOPHIAN SYNTHASE BETA CHAIN	BREVIBACTERIUM LACTOFERMENTUM	83-117								
PTRI18_ECOLI	TRYP TOPHIAN SYNTHASE BETA CHAIN	LACTOBACILLUS CASEI	77-104	164-191							
PTRI19_ECOLI	TRYP TOPHIAN SYNTHASE BETA CHAIN	LACTOCOCCUS LACTIS	56-83								
PTRI20_ECOLI	TRYP TOPHIAN SYNTHASE BETA CHAIN	VIBRIO PARAHAEOLYTICUS	223-250	260-294							
PTRI21_ECOLI	TRYP TOPHIAN SYNTHASE BETA CHAIN	BREVIBACTERIUM LACTOFERMENTUM	229-256								
PTRI22_ECOLI	INDOLE-3-GLYCEROL PHOSPHATE SYNTHASE	ESCHERICHIA COLI	205-232								
PTRI23_ECOLI	INDOLE-3-GLYCEROL PHOSPHATE SYNTHASE	LACTOCOCCUS LACTIS	148-175								
PTRI24_ECOLI	INDOLE-3-GLYCEROL PHOSPHATE SYNTHASE	VIBRIO PARAHAEOLYTICUS	346-376								
PTRI25_ECOLI	ANTHRANILATE PHOSPHORIBOSYL TRANSFERASE	ACINETOBACTER CALCOACETICUS	205-232								
PTRI26_ECOLI	ANTHRANILATE PHOSPHORIBOSYL TRANSFERASE	PSEUDOMONAS AERUGINOSA	205-232								
PTRI27_ECOLI	ANTHRANILATE PHOSPHORIBOSYL TRANSFERASE	PSEUDOMONAS PUTIDA	205-232								
PTRI28_ECOLI	ANTHRANILATE PHOSPHORIBOSYL TRANSFERASE	VIBRIO PARAHAEOLYTICUS	2-29								
PTRI29_ECOLI	ANTHRANILATE SYNTHASE COMPONENT I	BACILLUS PUMILUS	33-60								
PTRI30_ECOLI	ANTHRANILATE SYNTHASE COMPONENT I	CLOSTRIDIUM THERMOCELLUM	165-226								
PTRI31_ECOLI	ANTHRANILATE SYNTHASE COMPONENT I	LACTOCOCCUS LACTIS	142-191								
PTRI32_ECOLI	ANTHRANILATE SYNTHASE COMPONENT I	LEPTOSPIRA BIPILEXA	145-179								
PTRI33_ECOLI	ANTHRANILATE SYNTHASE COMPONENT I	RHIZOBIUM MELILOTI	139-166								
PTRI34_ECOLI	ANTHRANILATE SYNTHASE COMPONENT I	SALMONELLA TYPHIMURUM	191-218								
PTRI35_ECOLI	ANTHRANILATE SYNTHASE COMPONENT I	SULFOLOBUS SOLFATARICUS	143-183	208-328							
PTRI36_ECOLI	ANTHRANILATE SYNTHASE COMPONENT I	VIBRIO PARAHAEOLYTICUS	9-36	34-81							
PTRI37_ECOLI	ANTHRANILATE SYNTHASE COMPONENT II	ACINETOBACTER CALCOACETICUS	12-39								
PTRI38_ECOLI	ANTHRANILATE SYNTHASE COMPONENT II	AZOSPILLUM BRASILENSE	4-31								
PTRI39_ECOLI	ANTHRANILATE SYNTHASE COMPONENT II	ESCHERICHIA COLI	5-32								
PTRI40_ECOLI	ANTHRANILATE SYNTHASE COMPONENT II	LACTOCOCCUS LACTIS	4-31								
PTRI41_ECOLI	ANTHRANILATE SYNTHASE COMPONENT II	PSEUDOMONAS AERUGINOSA	12-39								
PTRI42_ECOLI	ANTHRANILATE SYNTHASE COMPONENT II	SALMONELLA TYPHIMURUM	5-32								
PTRI43_ECOLI	ANTHRANILATE SYNTHASE COMPONENT II	SERRA TIA MARCESCENS	9-43								
PTRI44_ECOLI	ANTHRANILATE SYNTHASE COMPONENT II	SHIGELLA DYSENTERIAE	5-32								
PTRI45_ECOLI	ANTHRANILATE SYNTHASE COMPONENT II	PSEUDOMONAS AERUGINOSA	147-174								
PTRI46_ECOLI	PUTATIVE TRANSCRIPTIONAL REGULATOR	ESCHERICHIA COLI	85-119								
PTRI47_ECOLI	TRAS PROTEIN	ESCHERICHIA COLI	184-221								
PTRI48_ECOLI	RESISTANCE PROTEIN PRECURSOR	ESCHERICHIA COLI									

PCGENE	10711784	Prolarytic Sequences										AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PTRYV_SALTY	TRAY PROTEIN	SALMONELLA TYPHIMURIUM	30-57																	
PTSTR_STRGR	TRYPSIN PRECURSOR	STREPTOMYCES GRISEUS	80-107																	
PTSTR_STRGR	RNA METHYLTRANSFERASE	STREPTOMYCES GRISEUS	126-153																	
PTSSST_STAAU	TOXIC SHOCK SYNDROME TOXIN-1 PRECURSOR	STAPHYLOCOCCUS AUREUS	29-63	102-129																
PTSSX_ECOLI	CHANNEL-FORMING PROTEIN TSX PRECURSOR	ESCHERICHIA COLI	225-252																	
PTTK_ECOLI	HYPOTHETICAL 24.3 KD PROTEIN	ESCHERICHIA COLI	81-115																	
PTUS_ECOLI	SITE-BINDING PROTEIN	ESCHERICHIA COLI	57-91	107-134																
PTYCA_BACBR	TYROCIDINE SYNTHETASE I	BACILLUS BREVIS	117-147	534-561	1019-1051															
PTYFL_TREPE	ANTIGEN TYFI	TREPONEMA PERTENUE	106-143																	
PTYRA_ECOLI	POSSIBLE PREPHENATE DEHYDROGENASE	BACILLUS SUBTILIS	244-271	312-342																
PTVRR_ECOLI	CHORISMATE MUTASE	ESCHERICHIA COLI	329-370																	
PTVSY_LACCA	TRANSCRIPTIONAL REGULATORY PROTEIN TYR	ESCHERICHIA COLI	483-510																	
PTVSY_LACLA	THYMIDYLATE SYNTHASE	LACTOCOCCUS CASEI	139-173																	
PTVSY_LACLA	THYMIDYLATE SYNTHASE	LACTOCOCCUS LACTIS	75-109																	
PUIPB_ECOLI	SENSOR PROTEIN UHPB	ESCHERICHIA COLI	69-96																	
PUIPB_SALTY	SENSOR PROTEIN UHPB	ESCHERICHIA COLI	276-303	316-343																
PUNUC_SALTY	UNUC PROTEIN	SALMONELLA TYPHIMURIUM	276-303	316-343																
PUPP_ECOLI	URACIL PHOSPHORIBOSYLTRANSFERASE	ESCHERICHIA COLI	204-231																	
PURAA_ECOLI	URACIL PERMEASE	ESCHERICHIA COLI	30-57																	
PUREJ_HELPY	UREASE ALPHA SUBUNIT	HELIPOBACTER PYLORI	350-384																	
PUREI_PROMI	UREASE ALPHA SUBUNIT	PROTEUS MIRABILIS	15-42																	
PUREI_PROVU	UREASE ALPHA SUBUNIT	PROTEUS VULGARIS	72-99																	
PUREJ_HELPY	UREASE BETA SUBUNIT	HELIPOBACTER PYLORI	13-40	483-517																
PUREJ_HELPY	UREASE BETA SUBUNIT	HELIPOBACTER PYLORI	62-99																	
PUREE_HELPY	UREASE ACCESSORY PROTEIN UREE	HELIPOBACTER PYLORI	17-44																	
PUREF_KLEAE	UREASE ACCESSORY PROTEIN UREF PRECURSOR	PROTEUS MIRABILIS	57-84																	
PUS4_LACLA	SECRETED 43 KD PROTEIN PRECURSOR	KLEBSIELLA AEROGES	20-47																	
PUSHA_ECOLI	P-SUGAR HYDROLASE PRECURSOR	LACTOCOCCUS LACTIS	44-98	150-223	276-303															
PUSHA_SALTY	SILENT PROTEIN USHA(0) PRECURSOR	ESCHERICHIA COLI	56-83																	
PUVRA_ECOLI	EXCINUCLEASE ABC SUBUNIT A	SALMONELLA TYPHIMURIUM	56-83																	
PUVRA_MICLI	EXCINUCLEASE ABC SUBUNIT A	ESCHERICHIA COLI	527-554	871-898																
PUVRA_PARDE	EXCINUCLEASE ABC SUBUNIT A	MICROCOCCUS LUTELIS	579-606	619-646	684-718	922-949														
PUVRC_BACSU	EXCINUCLEASE ABC SUBUNIT C	PARACOCUS DENITRIFICANS	33-60																	
PUVRC_ECOLI	EXCINUCLEASE ABC SUBUNIT C	BACILLUS SUBTILIS	342-372	511-538																
PURD_ECOLI	HELICASE II	ESCHERICHIA COLI	37-64	332-362																
PVANA_ENTFC	VANCOMYCIN RESISTANCE PROTEIN VANA	ENTEROCOCCUS FAECIUM	280-307																	
PVANC_ENTGA	VANCOMYCIN RESISTANCE PROTEIN VANC	ENTEROCOCCUS GALLINARUM	182-209																	
PVIB4_AGR75	VIRB4 PROTEIN PRECURSOR	AGROBACTERIUM TUMEFACIENS	172-211																	
PVIB6_AGR75	VIRB6 PROTEIN	AGROBACTERIUM TUMEFACIENS	138-172																	
PVIB6_AGR76	VIRB6 PROTEIN	AGROBACTERIUM TUMEFACIENS	190-227																	
PVIB6_AGR79	VIRB6 PROTEIN	AGROBACTERIUM TUMEFACIENS	190-227																	
PVIBX_AGR75	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVIBX_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVIBX_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR75	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR79	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239																
PVICI_AGR76	VIRB10 PROTEIN	AGROBACTERIUM T																		

PCGENE	10717814	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
BUENAMIE	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PVISC_ECOLI	VISC PROTEIN	ESCHERICHIA COLI	47-74								
PVLP4_MYGRH	VARIANT SURFACE ANTIGEN A PRECURSOR	MYCOPLASMA HYORHINIS	74-112								
PVN03_BORHE	OUTER MEMBRANE LIPOPROTEIN 3 PRECURSOR	BORRELIA HERMSII	34-81								
PVN07_BORHE	OUTER MEMBRANE LIPOPROTEIN 7 PRECURSOR	BORRELIA HERMSII	332-359								
PVN21_BORHE	OUTER MEMBRANE LIPOPROTEIN 21 PRECURSOR	BORRELIA HERMSII	330-357								
PVN24_BORHE	OUTER MEMBRANE LIPOPROTEIN 24 PRECURSOR	BORRELIA HERMSII	47-143								
PVN25_BORHE	OUTER MEMBRANE LIPOPROTEIN 25 PRECURSOR	BORRELIA HERMSII	315-356								
PVNFA_AZOV1	NITROGEN FIXATION PROTEIN VNFA	AZOTOBACTER VINELANDII	158-188	218-245							
PVNFK_AZOVH	NITROGENASE VANADIUM-IRON PROTEIN	AZOTOBACTER CHROCOCCUM MCD 1	68-95								
PVNFK_AZOV1	NITROGENASE VANADIUM-IRON PROTEIN	AZOTOBACTER VINELANDII	68-95	372-403							
PVRP2_SALCH	65 KD VIRULENCE PROTEIN	SALMONELLA CHOLERAE-SUIS	509-536								
PVRP2_SALDU	65 KD VIRULENCE PROTEIN	SALMONELLA DUBLIN	511-538								
PVSDE_SALDU	VIRULENCE PROTEIN VSDE	SALMONELLA DUBLIN	3-36								
PVYHB_VIBVU	CYTOLYSIN SECRETION PROTEIN	VIBRIO VULNIFICUS	30-75								
PWAPA_STRUMJ	WALL-ASSOCIATED PROTEIN PRECURSOR	STREPTOCOCCUS MUTANS	4-41	313-386							
PWRBA_ECOLI	TRP REPRESSOR BINDING PROTEIN	ESCHERICHIA COLI	89-116								
PXI91_ECOLI	X POLYPEPTIDE	ESCHERICHIA COLI	104-131								
PXI92_ECOLI	X POLYPEPTIDE	ESCHERICHIA COLI	104-131								
PXI93_ECOLI	X POLYPEPTIDE	ESCHERICHIA COLI	104-131								
PXISA_ANASP	EXCISEASE A	ANABAENA SP	4-31	89-116	135-162						
PXPBB_ECOLI	POSSIBLE INTEGRASE/RECOMBINASE XPRB	ESCHERICHIA COLI	268-295								
PXYLA_STAXY	XYLOSE ISOMERASE	STAPHYLOCOCCUS XYLOSUS	411-438								
PXYLK_KLEAE	XYLOSE KINASE	KLEBSIELLA AEROGENES	2-29								
PXYLK_LACPE	XYLOSE KINASE	LACTOBACILLUS PENTOSUS	32-79	211-238	260-287						
PXYLK_STAXY	XYLOSE KINASE	STAPHYLOCOCCUS XYLOSUS	4-31	96-130	209-236	246-273					
PXYLR_BACSU	XYLOSE REPRESSOR	BACILLUS SUBTILIS	75-102	260-287							
PXYLR_LACPE	XYLOSE REPRESSOR	LACTOBACILLUS PENTOSUS	262-289								
PXYLR_STAXY	XYLOSE REPRESSOR	STAPHYLOCOCCUS XYLOSUS	20-64	101-158	181-215	221-255	274-301				
PXYLZ_PSEPU	ELECTRON TRANSFER COMPONENT	PSEUDOMONAS PUTIDA	51-78	104-131							
PXYNA_CALSA	PUTATIVE ENDO-1,4-BETA-XYLANASE	CALDOCELLUM SACCHAROLYTICUM	198-225								
PXYNA_BACCI	O-1,4-BETA-XYLANASE PRECURSOR	BACILLUS CIRCULANS	47-74								
PXYNA_BACSU	ENDO-1,4-BETA-XYLANASE PRECURSOR	BACILLUS SUBTILIS	173-200								
PXYNA_BACSU	ENDO-1,4-BETA-XYLANASE PRECURSOR	BACILLUS SUBTILIS	47-74								
PXYNA_CALSA	ENDO-1,4-BETA-XYLANASE A PRECURSOR	CALDOCELLUM SACCHAROLYTICUM	132-159	226-256							
PXYNA_PSEFL	ENDO-1,4-BETA-XYLANASE PRECURSOR	PSEUDOMONAS FLUORESCENS	33-82								
PXYNB_BACPU	BETA-XYLOSIDASE	BACILLUS PUMILUS	459-486								
PXYNB_CALSA	BETA-XYLOSIDASE	CALDOCELLUM SACCHAROLYTICUM	440-474								
PXYNB_PSEFL	ENDO-1,4-BETA-XYLANASE PRECURSOR	PSEUDOMONAS FLUORESCENS	51-78	231-278	317-344	475-502					
PXYNC_PSEFL	ALPHA-L-ARABINOFURANOSIDASE C PRECURSOR	PSEUDOMONAS FLUORESCENS	51-78	231-278							
PXYNC_STRLI	ENDO-1,4-BETA-XYLANASE C PRECURSOR	STREPTOMYCES LIVIDANS	183-210								
PY1AK_HALMO	HYPOTHETICAL 14.9 KD PROTEIN	HALOCOCCUS MORRHUAE	56-83								
PY2JK_STORR	HYPOTHETICAL 23.1 KD PROTEIN	STREPTOCOCCUS ORALIS	78-105								
PY3JK_METSM	HYPOTHETICAL 36.7 KD PROTEIN	METHANOBREVIBACTER SMITHII	128-162	172-218							
PYAAC_ECOLI	HYPOTHETICAL 34.6 KD PROTEIN	ESCHERICHIA COLI	271-298								
PYAAM_ECOLI	HYPOTHETICAL 39.1 KD PROTEIN	PSEUDOMONAS FLUORESCENS	274-301								
PYAAM_ECOLI	HYPOTHETICAL 59.1 KD PROTEIN	ESCHERICHIA COLI	45-72								
PYAAQ_ECOLI	HYPOTHETICAL 36.6 KD PROTEIN	ESCHERICHIA COLI	352-379								
PYAAQ_ECOLI	HYPOTHETICAL 28.5 KD PROTEIN	ESCHERICHIA COLI	155-182								
PYABC_ECOLI	HYPOTHETICAL 34.9 KD PROTEIN	ESCHERICHIA COLI	131-158								
PYABG_ECOLI	HYPOTHETICAL 89.7 KD PROTEIN	ESCHERICHIA COLI	446-480	627-654							
PYABN_ECOLI	HYPOTHETICAL 63.9 KD PROTEIN	ESCHERICHIA COLI	428-455								
PYACI_PSEAE	HYPOTHETICAL 23.9 KD PROTEIN	PSEUDOMONAS AERUGINOSA	48-75	150-177							
PYAD7_CLOAB	HYPOTHETICAL 21.6 KD PROTEIN	CLOSTRIDIUM ACETOBYTILICUM	75-109	114-144							
PYAD5_CLOAB	HYPOTHETICAL 36.9 KD PROTEIN	CLOSTRIDIUM ACETOBYTILICUM	132-159	165-196	210-237						
PYAD6_CLOAB	HYPOTHETICAL 36.9 KD PROTEIN	CLOSTRIDIUM ACETOBYTILICUM	21-55								
PYADA_YEREN	INVASIN PRECURSOR	YERSINIA ENTEROCOLITICA	196-230	247-274	318-381						
PYADA_YERPS	INVASIN PRECURSOR	YERSINIA PSEUDOTUBERCULOSIS	255-282	297-360							

PCGENE	10711784	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PYADC_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	17-40	101-131							
PYAEA_RICRI	17 KD PROTEIN	RICKETTSIA RICKETTSII	107-134								
PYABD_ECOLI	HYPOTHETICAL 29.4 KD PROTEIN	ESCHERICHIA COLI	221-248								
PYAFD_ECOLI	HYPOTHETICAL 29.1 KD PROTEIN	ESCHERICHIA COLI	34-71								
PYAFE_ECOLI	HYPOTHETICAL 23.0 KD PROTEIN	ESCHERICHIA COLI	123-150								
PYAIB_ESCFE	HYPOTHETICAL PROTEIN	ESCHERICHIA FERGUSONII	2-35								
PYAMI_SALTU	PUTATIVE AMIDASE	SALMONELLA TYPHIMURIUM	73-100								
PYATI_SYNY3	HYPOTHETICAL 13.0 KD PROTEIN	SYNECHOCYSTIS SP	26-60								
PYATP_MYCLE	HYPOTHETICAL PUTATIVE ATP OPERON	MYCOBACTERIUM LEPRAE	23-57	91-158	511-538						
PYATR_BACFI	HYPOL ATP-BINDING TRANSPORT PROTEIN	BACILLUS FIRMS	211-238								
PYATS_MYCGA	HYPOTHETICAL PROTEIN	MYCOPLASMA GALLISEPTICUM	7-41								
PYATU_MYCGA	HYPOTHETICAL PROTEIN	MYCOPLASMA GALLISEPTICUM	29-56	60-87							
PYAV3_XANGV	HYPOTHETICAL 30 KD AVIRULENCE PROTEIN	XANTHOMONAS CAMPESTRIS	68-98	199-226							
PYBAH_ECOLI	HYPOTHETICAL 24.8 KD PROTEIN	ESCHERICHIA COLI	49-79								
PYBBA_ECOLI	HYPOTHETICAL ABC TRANSPORTER	ESCHERICHIA COLI	6-69								
PYBED_ECOLI	HYPOTHETICAL 9.8 KD PROTEIN	ESCHERICHIA COLI	51-82								
PYBID_ECOLI	HYPOTHETICAL 14.1 KD PROTEIN	ESCHERICHIA COLI	97-124								
PYCAE_ECOLI	HYPOTHETICAL 24.5 KD PROTEIN	ESCHERICHIA COLI	34-61								
PYCBA_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	38-65								
PYCBL_BACUN	HYPOTHETICAL 17.3 KD PROTEIN	BACTEROIDES UNIFORMIS	66-100								
PYCEA_BACLA	HYPOTHETICAL PROTEIN	BACILLUS LAUTUS	111-138								
PYCFC_ECOLI	HYPOTHETICAL 22.9 KD PROTEIN	ESCHERICHIA COLI	52-79								
PYCHR_ALCEU	HYPOTHETICAL PROTEIN	ALCALIGENES EUTROPHUS	21-48								
PYCIB_ECOLI	HYPOTHETICAL 20.8 KD PROTEIN	ESCHERICHIA COLI	16-43								
PYCIF_ECOLI	18.6 KD PROTEIN	ESCHERICHIA COLI	7-68	134-166							
PYCIK_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	35-62								
PYCLI_ECOLI	HYPOTHETICAL 43.3 KD PROTEIN	ESCHERICHIA COLI	54-81								
PYCP1_SYNPY	HYPOTHETICAL 29.1 KD PROTEIN	SYNECHOCOCUS SP	194-221								
PYCP3_SYNY3	HYPOTHETICAL 28.0 KD PROTEIN	SYNECHOCYSTIS SP	7-34	120-154							
PYCP5_SYNY3	HYPOTHETICAL 39.5 KD PROTEIN	SYNECHOCYSTIS SP	277-308								
PYCPG_MASLA	HYPOTHETICAL PROTEIN	MASTIGOCALDUS LAMINOSUS	2-29								
PYCPY_PSEA9	HYPOTHETICAL PUTATIVE OPERON PROTEIN	PSEUDANABAENA SP	380-407								
PYCR2_BACTK	HYPOTHETICAL 29.1 KD PROTEIN	BACILLUS THURINGIENSIS	42-74	153-180							
PYCS1_ECOLI	HYPOTHETICAL PROTEIN PRECURSOR	ESCHERICHIA COLI	32-59								
PYCW3_BACSU	HYPOTHETICAL PROTEIN	BACILLUS SUBTILIS	3-30	59-86							
PYDMM_HERAU	HYPOTHETICAL 68.4 KD PROTEIN	HERPETOSEIPHON AURANTIACUS	12-39	151-178	360-416						
PYDBA_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	32-66	117-144	163-216	233-267	295-329	438-485	676-717	1136-1163	1499-1530
PYDDB_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	80-107								
PYDDB_ECOLI	HYPOTHETICAL 86.7 KD PROTEIN	ESCHERICHIA COLI	606-641	683-714	726-753						
PYDDC_ECOLI	HYPOTHETICAL 80.8 KD PROTEIN	ESCHERICHIA COLI	373-400	421-452	621-648						
PYDDD_ECOLI	HYPOTHETICAL 24.1 KD PROTEIN	ESCHERICHIA COLI	133-174								
PYDEJ_ECOLI	HYPOTHETICAL 18.3 KD PROTEIN	ESCHERICHIA COLI	96-130								
PYDEK_ECOLI	HYPOTHETICAL 65.5 KD PROTEIN	ESCHERICHIA COLI	4-38								
PYDNN_BORBU	HYPOTHETICAL 11.2 KD PROTEIN	BORRELIA BURGDORFERI	333-360	524-551	565-592						
PYDOL_SULSO	HYPOTHETICAL 14.7 KD PROTEIN	SULFOLOBUS SOLFATARICUS	6-36								
PYDOI_SULSO	HYPOTHETICAL 16.9 KD PROTEIN	SULFOLOBUS SOLFATARICUS	11-38	71-103							
PYEBB_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	93-120								
PYEBG_ECOLI	HYPOTHETICAL 10.7 KD PROTEIN	ESCHERICHIA COLI	50-77								
PYEEB_ECOLI	HYPOTHETICAL 18.1 KD PROTEIN	ESCHERICHIA COLI	43-70								
PYEEF_ECOLI	HYPOTHETICAL 49.8 KD TRANSPORT PROTEIN	ESCHERICHIA COLI	147-174								
PYEGA_ECOLI	HYPOTHETICAL IN DCD 3'REGION	ESCHERICHIA COLI	145-172								
PYERA_ECOLI	HYPOTHETICAL 36.9 KD PROTEIN	ESCHERICHIA COLI	69-106	283-310							
PYEBB_ECOLI	HYPOTHETICAL 92.3 KD PROTEIN	ESCHERICHIA COLI	151-178	501-545							
PYEHF_ECOLI	HYPOTHETICAL 141.0 KD PROTEIN	ESCHERICHIA COLI	543-570	102-129							
PYEHF_ECOLI	HYPOTHETICAL 138.1 KD PROTEIN	ESCHERICHIA COLI	35-70								

PCGENE	10741784	Protein Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM									
PYEHU_ECOLI	HYPOTHETICAL 62.1 KD PROTEIN	ESCHERICHIA COLI	376-353								
PYEIC_ECOLI	HYPOTHETICAL 33.6 KD PROTEIN	ESCHERICHIA COLI	46-80								
PYEIF_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	61-88								
PYEIJ_ECOLI	HYPOTHETICAL 43.4 KD PROTEIN	ESCHERICHIA COLI	15-42								
PYELA_ECOLI	HYPOTHETICAL ABC TRANSPORTER	ESCHERICHIA COLI	83-110								
PYEIF_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	453-480								
PYEHJ_ECOLI	HYPOTHETICAL 91.2 KD PROTEIN	ESCHERICHIA COLI	399-433								
PYHID_ECOLI	HYPOTHETICAL 40.6 KD PROTEIN	ESCHERICHIA COLI	175-202								
PYHJ2_BACST	HYPOTHETICAL 30.6 KD PROTEIN	BACILLUS STEAROTHERMOPHILUS	131-160								
PYFXK_BRAJA	HYPOTHETICAL PROTEIN	BRADYRHIZOBIUM JAPONICUM	109-150								
PYGAP_BACME	HYPOTHETICAL 37.7 KD PROTEIN	BACILLUS MEGATERIUM	40-67								
PYGRD_ECOLI	HYPOTHETICAL 29.4 KD PROTEIN	ESCHERICHIA COLI	214-241								
PYGGH_ECOLI	HYPOTHETICAL 30.9 KD PROTEIN	ESCHERICHIA COLI	225-232								
PYGGG_ECOLI	HYPOTHETICAL 31.8 KD PROTEIN	ESCHERICHIA COLI	209-236								
PYGIG_BACTU	HYPOTHETICAL 22.8 KD PROTEIN	BACILLUS THURINGIENSIS	26-61								
PYGJ2_PSEU	HYPOTHETICAL 32.4 KD PROTEIN	PSEUDOMONAS PUTIDA	145-172								
PYGIJ_ECOLI	HYPOTHETICAL 48.4 KD PROTEIN	ESCHERICHIA COLI	223-264								
PYGL4_BACST	HYPOTHETICAL 35.3 KD PROTEIN	BACILLUS STEAROTHERMOPHILUS	6-33								
PYGL3_BACST	HYPOTHETICAL PROTEIN	BACILLUS STEAROTHERMOPHILUS	182-209								
PYGLN_BACCE	HYPOTHETICAL 15 KD PROTEIN	BACILLUS CEREUS	79-124								
PYGRD_BACSU	HYPOTHETICAL PROTEIN	BACILLUS SUBTILIS	20-47								
PYGRE_BACSU	HYPOTHETICAL 17.1 KD PROTEIN	BACILLUS SUBTILIS	84-111								
PYGRP_BACSU	HYPOTHETICAL 39.0 KD PROTEIN	BACILLUS SUBTILIS	98-125								
PYGRP_CLOAB	HYPOTHETICAL 38.8 KD PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	160-210								
PYGJ2_STRAUJ	HYPOTHETICAL PROTEIN 2	STREPTOCOCCUS MUTANS	4-40	110-138	235-262						
PYHAB_ECOLI	HYPOTHETICAL 20.6 KD PROTEIN	ESCHERICHIA COLI	20-66								
PYHAC_ECOLI	HYPOTHETICAL 45.2 KD PROTEIN	ESCHERICHIA COLI	69-96								
PYHAF_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	44-71	138-165							
PYHIG_ECOLI	PROBABLE ABC TRANSPORTER	ESCHERICHIA COLI	176-203								
PYHIG_PSEU	PROBABLE ABC TRANSPORTER	PSEUDOMONAS PUTIDA	74-101	106-133	147-174						
PYHIG_THIFE	PROBABLE ABC TRANSPORTER	THIOBACILLUS FERROOXIDANS	113-140								
PYHIF_ECOLI	HYPOTHETICAL 53.4 KD PROTEIN	ESCHERICHIA COLI	267-297								
PYHEM_BACSU	HYPOTHETICAL 32.0 KD PROTEIN	BACILLUS SUBTILIS	222-253								
PYHET_ANAP	HYPOTHETICAL PROTEIN	ANABAENA SP	72-99								
PYHHA_ECOLI	HYPOTHETICAL 16.6 KD PROTEIN	ESCHERICHIA COLI	56-84								
PYHIG_ECOLI	HYPOTHETICAL 15.1 KD PROTEIN	ESCHERICHIA COLI	41-77								
PYHHH_ECOLI	HYPOTHETICAL 14.5 KD PROTEIN	ESCHERICHIA COLI	43-73								
PYHJ1_LACLA	HYPOTHETICAL PROTEIN	LACTOCOCCUS LACTIS	167-194								
PYHJ2_LACLA	HYPOTHETICAL 38.0 KD PROTEIN	LACTOCOCCUS LACTIS	90-124	132-159							
PYHJ6_LACLA	HYPOTHETICAL 30.7 KD PROTEIN	LACTOCOCCUS LACTIS	92-148								
PYHJ11_LACLA	HYPOTHETICAL 30.7 KD PROTEIN	LACTOCOCCUS LACTIS	77-104	156-183							
PYHJ11_STAUI	HYPOTHETICAL PROTEIN	STAPHYLOCOCCUS AUREUS	18-67								
PYHJ11_VIBCH	HYPOTHETICAL 19.3 KD PROTEIN	VIBRIO CHOLERAE	99-126								
PYHMF_METFE	HYPOTHETICAL 32.2 KD PROTEIN	METHANOTHERMUS FERVIDUS	106-133								
PYHSH_CLOAB	HYPOTHETICAL 11.0 KD PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	41-85								
PYHSA_CLOAB	HYPOTHETICAL 20.6 KD PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	98-125								
PYHVC_CLOAB	HYPOTHETICAL 42.4 KD PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	21-52	208-231	276-310						
PYHVI_LACIE	HYPOTHETICAL PROTEIN	LACTOBACILLUS HELVETICUS	91-120	127-154							
PYHVA_PSEH	HYPOTHETICAL PROTEIN	PSEUDOMONAS SP	217-266								
PYH11_HALBA	HYPOTHETICAL 38.0 KD PROTEIN	HALOBACTERIUM HALOBIVM	245-272								
PYH32_MYCBU	IS986 HYPOTHETICAL 8.6 KD PROTEIN	MYCOBACTERIUM TUBERCULOSIS	19-46								
PYH42_PSEY	HYPOTHETICAL 42.6 KD PROTEIN	PSEUDOMONAS AMYLODERMOSA	9-36								
PYH48_METYM	ISM1 HYPOTHETICAL 48.3 KD PROTEIN	METHANOBREVIBACTER SMITHII	73-100	154-184	338-365						
PYH52_HALHA	HYPOTHETICAL 31 KD PROTEIN	HALOBACTERIUM HALOBIVM	86-113								
PYH5B_ECOLI	HYPOTHETICAL 34.0 KD PROTEIN	ESCHERICHIA COLI	202-239								
PYH5D_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	9-43								
PYH5F_ECOLI	HYPOTHETICAL 22.6 KD PROTEIN	ESCHERICHIA COLI	131-158								

PCGENE	107178z4	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PYBQ_ECOLI	HYPOTHETICAL 18.1 KD PROTEIN	ESCHERICHIA COLI	70-97								
PYCC_ECOLI	HYPOTHETICAL 33.2 KD PROTEIN	ESCHERICHIA COLI	143-170								
PYCD_ECOLI	HYPOTHETICAL 31.1 KD PROTEIN	ESCHERICHIA COLI	132-159								
PYCH_ECOLI	HYPOTHETICAL 62.3 KD PROTEIN	ESCHERICHIA COLI	408-435								
PYCI_ECOLI	HYPOTHETICAL 88.1 KD PROTEIN	ESCHERICHIA COLI	122-149								
PYCN_ECOLI	HYPOTHETICAL 18.2 KD PROTEIN	ESCHERICHIA COLI	76-103								
PYCO_ECOLI	HYPOTHETICAL 49.9 KD PROTEIN	ESCHERICHIA COLI	320-347								
PYDB_ECOLI	HYPOTHETICAL 13.8 KD PROTEIN	ESCHERICHIA COLI	34-78								
PYDI_ECOLI	HYPOTHETICAL 15.7 KD PROTEIN	ESCHERICHIA COLI	86-113	182-209	277-304						
PYDK_ECOLI	HYPOTHETICAL 62.1 KD PROTEIN	ESCHERICHIA COLI	56-83								
PYDP_ECOLI	HYPOTHETICAL 27.3 KD PROTEIN	ESCHERICHIA COLI	2-39								
PYEA_ECOLI	HYPOTHETICAL 49.2 KD PROTEIN	ESCHERICHIA COLI	63-97								
PYEC_ECOLI	HYPOTHETICAL 60.6 KD PROTEIN	ESCHERICHIA COLI	221-248								
PYEC_ERAWCH	HYPOTHETICAL PROTEIN	ERWINIA CHRYSANTHEMI	20-58	270-297							
PYED_ECOLI	HYPOTHETICAL 34.8 KD PROTEIN	ESCHERICHIA COLI	22-67								
PYEG_ECOLI	HYPOTHETICAL 46.9 KD PROTEIN	ESCHERICHIA COLI	86-120								
PYEH_ECOLI	HYPOTHETICAL 24.7 KD PROTEIN	ESCHERICHIA COLI	291-327								
PYEM_ECOLI	HYPOTHETICAL 15.0 KD PROTEIN	ESCHERICHIA COLI	51-78								
PYEO_ECOLI	HYPOTHETICAL 51.5 KD PROTEIN	ESCHERICHIA COLI	73-105								
PYFC_ECOLI	HYPOTHETICAL 39.6 KD PROTEIN	ESCHERICHIA COLI	201-242	380-407							
PYFJ_ECOLI	HYPOTHETICAL 14.0 KD PROTEIN	ESCHERICHIA COLI	175-202								
PYGM_ECOLI	HYPOTHETICAL 33.7 KD PROTEIN	ESCHERICHIA COLI	51-92								
PYGN_ECOLI	HYPOTHETICAL 54.7 KD PROTEIN	ESCHERICHIA COLI	120-154								
PYGO_ECOLI	HYPOTHETICAL 28.1 KD PROTEIN	ESCHERICHIA COLI	207-234								
PYGP_ECOLI	HYPOTHETICAL 22.3 KD PROTEIN	ESCHERICHIA COLI	67-94								
PYGT_ECOLI	HYPOTHETICAL 27.8 KD PROTEIN	ESCHERICHIA COLI	173-200								
PYHB_ECOLI	HYPOTHETICAL 21.2 KD PROTEIN	ESCHERICHIA COLI	132-159								
PYHD_ECOLI	HYPOTHETICAL 10.3 KD PROTEIN	ESCHERICHIA COLI	13-40								
PYHF_ECOLI	HYPOTHETICAL 54.1 KD PROTEIN	ESCHERICHIA COLI	28-55								
PYHI_ECOLI	HYPOTHETICAL 19.1 KD PROTEIN	ESCHERICHIA COLI	272-306								
PYHK_ECOLI	HYPOTHETICAL 65.4 KD PROTEIN	ESCHERICHIA COLI	112-139								
PYHM_ECOLI	HYPOTHETICAL 36.9 KD PROTEIN	ESCHERICHIA COLI	4-31								
PYHO_ECOLI	HYPOTHETICAL 81.8 KD PROTEIN	ESCHERICHIA COLI	83-110	120-154	297-324						
PYHP_ECOLI	HYPOTHETICAL 53.1 KD PROTEIN	ESCHERICHIA COLI	612-646								
PYHV_ECOLI	HYPOTHETICAL 31.9 KD PROTEIN	ESCHERICHIA COLI	357-384								
PYHX_ECOLI	HYPOTHETICAL 23.5 KD PROTEIN	ESCHERICHIA COLI	72-99								
PYHZ_ECOLI	HYPOTHETICAL 15.9 KD PROTEIN	ESCHERICHIA COLI	9-36								
PYIIP_ECOLI	HYPOTHETICAL 32.9 KD PROTEIN	ESCHERICHIA COLI	6-33								
PYIU_ECOLI	HYPOTHETICAL 9.6 KD PROTEIN	ESCHERICHIA COLI	22-63								
PYIJ_ECOLI	HYPOTHETICAL 26.6 KD PROTEIN	ESCHERICHIA COLI	28-71								
PYIK_ECOLI	HYPOTHETICAL 78.3 KD PROTEIN	ESCHERICHIA COLI	136-163								
PYIL_ECOLI	HYPOTHETICAL 11.2 KD PROTEIN	ESCHERICHIA COLI	225-263								
PYIO_ECOLI	HYPOTHETICAL 32.1 KD PROTEIN	ESCHERICHIA COLI	26-53								
PYIIP_ECOLI	HYPOTHETICAL 66.6 KD PROTEIN	ESCHERICHIA COLI	214-241								
PYINL_LISMO	HYPOTHETICAL 26.8 KD PROTEIN	ESCHERICHIA COLI	110-137	419-446							
PYIS_SHISO	INSERTION ELEMENT IS600	SHIGELLA SONNEI	7-34								
PYIS_STROO	IS110 HYPOTHETICAL 43.6 KD PROTEIN	STREPTOMYCES COELICOLOR	62-89								
PYIS3_SHISO	INSERTION ELEMENT IS629	SHIGELLA SONNEI	125-152								
PYIS3_STROO	INSERTION ELEMENT IS629	SHIGELLA SONNEI	66-100								
PYISP_BACPP	HYPOTHETICAL 42.1 KD PROTEIN	BACILLUS SP	312-339								
PYIAG_ECOLI	HYPOTHETICAL 22.6 KD PROTEIN	ESCHERICHIA COLI	51-78								
PYIAL_ECOLI	HYPOTHETICAL 20.4 KD PROTEIN	ESCHERICHIA COLI	88-122								
PYIBH_ECOLI	HYPOTHETICAL 78.3 KD PROTEIN	ESCHERICHIA COLI	93-120								
PYIBL_ECOLI	HYPOTHETICAL 9.7 KD PROTEIN	ESCHERICHIA COLI	30-57								
PYIBM_ECOLI	HYPOTHETICAL 26.3 KD PROTEIN	ESCHERICHIA COLI	112-149								
PYIBQ_ECOLI	HYPOTHETICAL 15.7 KD PROTEIN	ESCHERICHIA COLI	2-29								
PYICC_ECOLI	HYPOTHETICAL 60.8 KD PROTEIN	ESCHERICHIA COLI	38-65	414-441	451-492						

PCGENE	107x178x4	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PYICE_ECOLI	HYPOTHETICAL 60.5 KD PROTEIN	ESCHERICHIA COLI	454-481								
PYICG_ECOLI	HYPOTHETICAL 59.2 KD PROTEIN	ESCHERICHIA COLI	394-421								
PYICQ_ECOLI	HYPOTHETICAL 25.1 KD PROTEIN	ESCHERICHIA COLI	91-118								
PYICP_ECOLI	HYPOTHETICAL 53.4 KD PROTEIN	ESCHERICHIA COLI	242-269								
PYICS_ECOLI	HYPOTHETICAL 71.7 KD PROTEIN	ESCHERICHIA COLI	366-396								
PYICW_ECOLI	HYPOTHETICAL ABC TRANSPORTER	ESCHERICHIA COLI	50-84								
PYIDA_ECOLI	HYPOTHETICAL 84.2 KD PROTEIN	ESCHERICHIA COLI	2-29	451-485							
PYIDB_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	103-134								
PYIJA_ECOLI	HYPOTHETICAL 17.5 KD PROTEIN PRECURSOR	ESCHERICHIA COLI	88-129								
PYKAB_BACFI	HYPOTHETICAL 48.8 KD PROTEIN	BACILLUS FIRMS	321-355								
PYLAI_LACAC	HYPOTHETICAL PROTEIN	LACTOBACILLUS ACIDOPHILUS	47-74								
PYLAI_LACAC	HYPOTHETICAL 14.5 KD PROTEIN	LACTOBACILLUS ACIDOPHILUS	15-42								
PYLAI_LACAC	HYPOTHETICAL 14.4 KD PROTEIN	LACTOBACILLUS ACIDOPHILUS	47-74								
PYLAC_SULSO	HYPOTHETICAL 24.4 KD PROTEIN	SULFOLOBUS SOLFATANUS	23-50								
PYLPI_PSEPU	HYPOTHETICAL 44.7 KD PROTEIN	PSEUDOMONAS PUTIDA	186-213								
PYLPI_YEREN	YLP A LIPOPROTEIN PRECURSOR	YERSINIA ENTEROCOLITICA	184-221	314-341							
PYLTI_ANAVA	HYPOTHETICAL 22.6 KD PROTEIN	ANABAENA VARIABILIS	172-199								
PYLUD_LACLA	HYPOTHETICAL 29.7 KD PROTEIN	LACTOCOCCUS LACTIS	35-70								
PYME2_BACSU	HYPOTHETICAL 35.3 KD PROTEIN	BACILLUS SUBTILIS	52-79								
PYMG2_MYCGE	HYPOTHETICAL 114.4 KD PROTEIN PRECURSOR	MYCOPLASMA GENITALIUM	56-83	159-193	420-445	981-1008					
PYNGA_CLOPE	HYPOTHETICAL PROTEIN	CLOSTRIDIUM PERFRINGENS	139-166								
PYNGB_CLOPE	HYPOTHETICAL 31.2 KD PROTEIN	CLOSTRIDIUM PERFRINGENS	12-49	63-97	182-211						
PYNI1_METTL	HYPOTHETICAL PROTEIN	METHANOCOCCUS THERMOLITHOTROPHICUS	55-89								
PYNOI_PARDE	HYPOTHETICAL 9.3 KD PROTEIN	PARACOCUS DENITRIFICANS	52-86								
PYNTJ_ANASP	HYPOTHETICAL 28.1 KD PROTEIN	ANABAENA SP	171-198								
PYNTS_ANASP	HYPOTHETICAL PROTEIN	ANABAENA SP	87-165								
PYOHG_ECOLI	HYPOTHETICAL 21.4 KD PROTEIN	ESCHERICHIA COLI	5-32								
PYOHG_ECOLI	HYPOTHETICAL 43.3 KD PROTEIN	ESCHERICHIA COLI	104-171	289-316							
PYVIA_ECOLI	HYPOTHETICAL 15.0 KD PROTEIN	ESCHERICHIA COLI	17-44								
PYVIE_ECOLI	HYPOTHETICAL 91.5 KD PROTEIN	ESCHERICHIA COLI	221-248								
PYVOF_ECOLI	HYPOTHETICAL 9.3 KD PROTEIN	ESCHERICHIA COLI	41-82								
PYVOH_ECOLI	HYPOTHETICAL 34.3 KD PROTEIN	ESCHERICHIA COLI	145-193								
PYVOJ_ECOLI	HYPOTHETICAL 36.2 KD PROTEIN	ESCHERICHIA COLI	94-121								
PYOMQ_PHOS9	HYPOTHETICAL PROTEIN IN OMPH 3 REGION	PHOTOBACTERIUM SP	32-59								
PYOPH_YEREN	PROTEIN-TYROSINE PHOSPHATASE YOPH	YERSINIA ENTEROCOLITICA	63-105								
PYOPH_YERPS	PROTEIN-TYROSINE PHOSPHATASE YOPH	YERSINIA PSEUDOTUBERCULOSIS	63-105								
PYOPN_YERPS	OUTER MEMBRANE PROTEIN YOPN	YERSINIA ENTEROCOLITICA	23-50	66-93	215-262						
PYOPN_YERPS	OUTER MEMBRANE PROTEIN YOPN	YERSINIA PSEUDOTUBERCULOSIS	23-50	66-93	215-262						
PYOPQ_YEREN	YOPQ PROTEIN PRECURSOR	YERSINIA ENTEROCOLITICA	61-88								
PYORA_HAEIN	HYPOTHETICAL 31.5 KD PROTEIN	HAEMOPHILUS INFLUENZAE	147-174								
PYORA_LISMO	HYPOTHETICAL 25.6 KD PROTEIN	LISTERIA MONOCYTOGENES	32-77								
PYORA_PIRWOJ	HYPOTHETICAL 24.7 KD PROTEIN	PYROCOCUS WOESSEI	183-210								
PYORB_HAEIN	HYPOTHETICAL 19.8 KD PROTEIN	HAEMOPHILUS INFLUENZAE	39-66								
PYORC_HAEIN	HYPOTHETICAL 19.9 KD PROTEIN	HAEMOPHILUS INFLUENZAE	49-79								
PYORE_HAEIN	8 KD PROTEIN	HAEMOPHILUS INFLUENZAE	47-74	82-109							
PYORH_HAEIN	26.8 KD PROTEIN	HAEMOPHILUS INFLUENZAE	199-229								
PYORH_HAEIN	HYPOTHETICAL 13.7 KD PROTEIN	HAEMOPHILUS INFLUENZAE	7-34								
PYORI_HAEIN	95.4 KD PROTEIN	HAEMOPHILUS INFLUENZAE	416-450	688-722							
PYORO_BACSU	HYPOTHETICAL 34 KD PROTEIN	BACILLUS SUBTILIS	148-175								
PYORX_PIRWOJ	HYPOTHETICAL PROTEIN	PYROCOCUS WOESSEI	66-93								
PYORZ_LISMO	HYPOTHETICAL 16.9 KD PROTEIN	LISTERIA MONOCYTOGENES	27-54								
PYPI5_STAAU	HYPOTHETICAL 15.5 KD PROTEIN	STAPHYLOCOCCUS AUREUS	71-98	110-137							
PYP23_BACFI	HYPOTHETICAL 22.5 KD PROTEIN	BACILLUS SUBTILIS	57-84								
PYP21_STAAU	HYPOTHETICAL 22.2 KD PROTEIN	STAPHYLOCOCCUS AUREUS	29-70								
PYP2A_STAAU	HYPOTHETICAL 26.9 KD PROTEIN	STAPHYLOCOCCUS AUREUS	34-104								
PYP2B_STAAU	HYPOTHETICAL 27.0 KD PROTEIN	STAPHYLOCOCCUS AUREUS	23-60	62-89	179-206						
PYP2C_STAAU	HYPOTHETICAL 27.7 KD PROTEIN	STAPHYLOCOCCUS AUREUS	13-83	129-176							

PCGENE	10717824	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PYP7_AGR14	HYPOTHETICAL PROTEIN 7	AGROBACTERIUM TUMEFACIENS	29-56								
PYP2_LEGN	HYPOTHETICAL PROTEIN	LEGIONELLA PNEUMOPHILA	79-106								
PYP5_ENTFA	HYPOTHETICAL 13 KD PROTEIN	ENTEROCOCCUS FAECALIS	13-47	115-162							
PYP1_ECOLI	HYPOTHETICAL 21.6 KD PROTEIN	BACILLUS ANTHRACIS	5-32								
PYP4_BACU	HYPOTHETICAL 27.6 KD PROTEIN	ESCHERICHIA COLI	184-222								
PYP1_ECOLI	HYPOTHETICAL 27.3 KD PROTEIN	BACILLUS SUBTILIS	16-43								
PYP1_ECOLI	HYPOTHETICAL 12.6 KD PROTEIN	ESCHERICHIA COLI	34-61								
PYP1_ECOLI	HYPOTHETICAL 18.1 KD PROTEIN	SYNECHOCOCCUS SP	7-34	43-77	83-149						
PYP16_CLOPE	HYPOTHETICAL 19.7 KD PROTEIN	CLOSTRIDIUM PERFRINGENS	2-59								
PYP19_CLOPE	HYPOTHETICAL 14.5 KD PROTEIN	CLOSTRIDIUM PERFRINGENS	110-137	263-290	303-340						
PYP1_PSEAE	HYPOTHETICAL 38.4 KD PROTEIN	PSEUDOMONAS AERUGINOSA	22-52								
PYP2_BACU	HYPOTHETICAL PROCESSING PROTEASE	BACILLUS SUBTILIS	329-356								
PYP20_KLEPN	HYPOTHETICAL PROTEIN	KLEBSIELLA PNEUMONIAE	243-270								
PYP21_PLEBO	HYPOTHETICAL 13.1 KD PROTEIN	PLECTONENEMA BORYANUM	27-54								
PYP1_METTF	HYPOTHETICAL 40.7 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	58-85	308-335							
PYP1_METTF	HYPOTHETICAL 22.3 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	3-30								
PYP1_METTF	HYPOTHETICAL 17.3 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	69-117								
PYP1_METTF	HYPOTHETICAL 49.6 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	333-360	389-430							
PYP1_METTF	HYPOTHETICAL 72.4 KD PROTEIN	BACILLUS SUBTILIS	602-636								
PYP1_METTF	HYPOTHETICAL 40.6 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	58-85	308-335							
PYP1_METTF	HYPOTHETICAL 33.1 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	154-188								
PYP1_METTF	HYPOTHETICAL 54.1 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	193-220	226-253	381-408						
PYP1_METTF	HYPOTHETICAL 9.7 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	5-78								
PYP18_THEPE	HYPOTHETICAL 18.7 KD PROTEIN	THERMOPHILUM PENDENS	82-109								
PYP18_THEPE	HYPOTHETICAL 40 KD GTP-BINDING PROTEIN	HALOBACTERIUM CUTIRUBRUM	20-51								
PYP18_THEPE	HYPOTHETICAL 28.7 KD PROTEIN	SYNECHOCOCCUS SP	49-76								
PYP18_THEPE	HYPOTHETICAL 40.6 KD PROTEIN	SALMONELLA TYPHIMURIUM	143-190								
PYP18_THEPE	HYPOTHETICAL 51.0 KD PROTEIN	SALMONELLA TYPHIMURIUM	428-455								
PYP18_THEPE	HYPOTHETICAL 20.6 KD PROTEIN	SALMONELLA TYPHIMURIUM	29-56								
PYP18_THEPE	HYPOTHETICAL 36.6 KD PROTEIN	SALMONELLA TYPHIMURIUM	130-157								
PYP18_THEPE	HYPOTHETICAL PROTEIN	LACTOCOCCUS LACTIS	140-167								
PYP18_THEPE	HYPOTHETICAL PROTEIN	METHANOCOCCUS VANNIELII	40-93	129-156							
PYP18_THEPE	HYPOTHETICAL 11.6 KD PROTEIN	METHANOCOCCUS VANNIELII	13-40								
PYP18_THEPE	HYPOTHETICAL 11.5 KD PROTEIN	SULFOLOBUS ACIDOCALDARIUS	5-51								
PYP18_THEPE	HYPOTHETICAL 14.5 KD PROTEIN	SULFOLOBUS ACIDOCALDARIUS	37-71								
PYP18_THEPE	HYPOTHETICAL 23.3 KD PROTEIN	BACILLUS SUBTILIS	29-56								
PYP18_THEPE	HYPOTHETICAL 11.4 KD PROTEIN	BACILLUS SUBTILIS	3-30	44-81							
PYP18_THEPE	HYPOTHETICAL YSC OPERON PROTEIN C PRECURSOR	YERSINIA ENTEROCOLITICA	90-121								
PYP18_THEPE	YSC OPERON PROTEIN D	YERSINIA ENTEROCOLITICA	38-72	365-399							
PYP18_THEPE	YSC OPERON PROTEIN H	YERSINIA ENTEROCOLITICA	242-269								
PYP18_THEPE	YSC OPERON PROTEIN I	YERSINIA ENTEROCOLITICA	28-58								
PYP18_THEPE	YSC OPERON PROTEIN I	YERSINIA PSEUDOTUBERCULOSIS	28-58								
PYP18_THEPE	YSC OPERON PROTEIN I	YERSINIA ENTEROCOLITICA	49-76								
PYP18_THEPE	YSC OPERON LIPROTEIN / PRECURSOR	YERSINIA PSEUDOTUBERCULOSIS	49-76								
PYP18_THEPE	YSC OPERON LIPROTEIN / PRECURSOR	YERSINIA ENTEROCOLITICA	99-126								
PYP18_THEPE	YSC OPERON PROTEIN L	YERSINIA PSEUDOTUBERCULOSIS	41-68								
PYP18_THEPE	YSC OPERON PROTEIN L	YERSINIA ENTEROCOLITICA	11-70								
PYP18_THEPE	HYPOTHETICAL 9.5 KD PROTEIN	SERRATIA MARCESCENS	68-109								
PYP18_THEPE	HYPOTHETICAL 28.3 KD PROTEIN	DESULFUROLOBUS AMBIVALENS	65-155								
PYP18_THEPE	HYPOTHETICAL PROTEIN	LEPTOSPIRA INTEROGANS	6-33	60-94							
PYP18_THEPE	HYPOTHETICAL 19.6 KD PROTEIN	MYCOPLASMA MYCOIDES	35-59	185-227	300-327						
PYP18_THEPE	HYPOTHETICAL PROTEIN	BACILLUS SUBTILIS	72-99								
PYP18_THEPE	HYPOTHETICAL PROTEIN	METHANOTERMUS FERVIDUS	78-103								
PYP18_THEPE	HYPOTHETICAL 17.1 KD PROTEIN	STREPTOMYCES FRADIAE	246-273								

PCGENE	107x178x4	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	ORGANISM	244-271	279-306							
PYTDK_BACSU	HYPOTHETICAL 35.6 KD PROTEIN	BACILLUS SUBTILIS									
PYTRP_LEPBI	HYPOTHETICAL 22 KD PROTEIN	LEPTOSPIRA BIFLEXA	84-113								
PYTRP_LACLA	HYPOTHETICAL 13.3 KD PROTEIN	LACTOCOCCUS LACTIS	76-112								
PYTSI_BACSU	HYPOTHETICAL 20 KD PROTEIN	BACILLUS SUBTILIS	37-64								
PYTSF_SPCGI	HYPOTHETICAL 23.8 KD PROTEIN	SPIROPLASMA CITRI	102-149								
PYX04_BACSU	HYPOTHETICAL 12.8 KD PROTEIN	BACILLUS SUBTILIS	37-64	68-95							
PYX06_BACSU	HYPOTHETICAL 21.0 KD PROTEIN	BACILLUS SUBTILIS	142-169								
PYX13_BACSU	HYPOTHETICAL 26.0 KD PROTEIN	BACILLUS SUBTILIS	17-51								
PYX15_BACSU	HYPOTHETICAL 61.8 KD PROTEIN	BACILLUS SUBTILIS	165-207	262-289							
PYX18_BACSU	HYPOTHETICAL 66.8 KD PROTEIN	BACILLUS SUBTILIS	3-30	34-61	94-142						
PYX19_BACSU	HYPOTHETICAL 31.3 KD PROTEIN	BACILLUS SUBTILIS	56-83	85-112							
PYX20_BACSU	HYPOTHETICAL 23.2 KD PROTEIN	BACILLUS SUBTILIS	24-58								
PYX12_ANASP	HYPOTHETICAL 18.9 KD PROTEIN	ANABAENA SP	77-104								
PYXYB_CALSA	HYPOTHETICAL 10.7 KD PROTEIN	CALDOCELLUM SACCHAROLYTICUM	9-39								
PYXYC_CALSA	HYPOTHETICAL PROTEIN	CALDOCELLUM SACCHAROLYTICUM	41-94								
PYZEI_ECOLI	HYPOTHETICAL 16.7 KD PROTEIN	ESCHERICHIA COLI	41-78								

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TABLE IX

107 X 178 X 4 SEARCH MOTIF RESULTS SUMMARY

FOR ALL HUMAN PROTEINS

PCGENE	1071784 Motif Search on All Human Protein Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PI43F_HUMAN	14-3-3 PROTEIN ETA (PROTEIN A51) (FRAGMENT)	101-115								
PI43S_HUMAN	14-3-3 PROTEIN HOMOLOG STRATIFIN	45-72								
PI43T_HUMAN	14-3-3 PROTEIN THETA (14-3-3 PROTEIN T-CELL) (H51 PROTEIN)	61-92								
PI43Z_HUMAN	14-3-3 PROTEIN ZETA (PROTEIN KINASE C INHIBITOR PROTEIN-1) (KICP-1)	28-55								
PIA23_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, A-29(AW-19) A*2901 ALPHA CHAIN	87-114								
PIA24_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, A-29(AW-19) A*2902 ALPHA CHAIN	87-114								
PIB02_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-7 B*0702 ALPHA CHAIN	87-114								
PIB03_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-7 B*0703 ALPHA CHAIN	87-114								
PIB05_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-13 B*1301 ALPHA CHAIN	87-114	148-182							
PIB10_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-75(B-15) B*1502 ALPHA CHAIN	84-115								
PIB11_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-72(BW-70) B*1503 ALPHA CHAIN	84-115								
PIB12_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-62 B*1504 ALPHA CHAIN	76-107								
PIB13_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-18 B*1801 ALPHA CHAIN	84-115								
PIB21_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3501 ALPHA CHAIN	84-115								
PIB22_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3502 ALPHA CHAIN	84-115								
PIB23_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3503 ALPHA CHAIN	84-115								
PIB24_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3504 ALPHA CHAIN	76-107								
PIB25_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3505 ALPHA CHAIN	84-115								
PIB26_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3506 ALPHA CHAIN	84-115								
PIB27_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3507 ALPHA CHAIN	84-115								
PIB28_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3508 ALPHA CHAIN	84-115								
PIB29_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-37 B*3701 ALPHA CHAIN	88-115								
PIB32_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-39 B*3902 ALPHA CHAIN	87-114								
PIB33_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-60(B-40) B*4001 ALPHA CHAIN	60-91								
PIB34_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-40 B*4002 ALPHA CHAIN	84-115								
PIB35_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-40 B*4003 ALPHA CHAIN	84-115								
PIB36_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-40 B*4004 ALPHA CHAIN	84-115								
PIB38_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-41 B*4101 ALPHA CHAIN	84-115								
PIB39_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-42 B*4201 ALPHA CHAIN	87-114								
PIB40_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-44(B-12) B*4401 ALPHA CHAIN	84-111								
PIB41_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-44(B-12) B*4402 ALPHA CHAIN	87-114								
PIB42_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-44(B-12) B*4403 ALPHA CHAIN	87-114								
PIB43_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-45(B-12) B*4501 ALPHA CHAIN	84-115								
PIB44_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-46 B*4601 ALPHA CHAIN	87-114								
PIB45_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-47 B*4701 ALPHA CHAIN	88-115								
PIB46_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-48 B*4801 ALPHA CHAIN	84-115								
PIB47_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-49(B-21) B*4901 ALPHA CHAIN	87-114								
PIB48_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-50(B-21) B*5001 ALPHA CHAIN	84-115								
PIB53_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-52(B-5) B*5201 ALPHA CHAIN	87-114								
PIB55_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-54(BW-22) B*5401 ALPHA CHAIN	87-114								
PIB56_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-55(BW-22) B*5501 ALPHA CHAIN	87-114								
PIB57_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-55(BW-22) B*5502 ALPHA CHAIN	87-114								
PIB58_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-56(BW-22) B*5601 ALPHA CHAIN	87-114								
PIB59_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-56(BW-22) B*5602 ALPHA CHAIN	87-114								
PIC01_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-1 CW*0101 ALPHA CHAIN	87-114								
PIC02_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-1 CW*0102 ALPHA CHAIN	87-114								
PIC03_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-2 CW*0201 ALPHA CHAIN	87-114								
PIC04_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-2 CW*0202 ALPHA CHAIN	87-114								
PIC06_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-3 CW*0301 ALPHA CHAIN	87-114								
PIC12_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-4 CW*0401 ALPHA CHAIN	87-114								
PIC13_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-8 CW*0802 ALPHA CHAIN	87-114								
PIC14_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-8 CW*0803 ALPHA CHAIN	87-114								
PIC17_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW*1401 ALPHA CHAIN PRECURSOR	87-114								
P23A6_HUMAN	6971 KD (2'-5')OLIGOADENYLATE SYNTHETASE	593-620								
P2A4A_HUMAN	PROTEIN PHOSPHATASE PP2A, 65 KD REGULATORY SUBUNIT, ALPHA ISOFORM	12-49	54-81							
P2A4B_HUMAN	PROTEIN PHOSPHATASE PP2A, 65 KD REGULATORY SUBUNIT, BETA ISOFORM	9-36	41-68	79-106						
P2A4C_HUMAN	PROTEIN PHOSPHATASE PP2A, 55 KD REGULATORY SUBUNIT, ALPHA ISOFORM	177-218								
P411_HUMAN	ERYTHROID PROTEIN 4.1 (BAND 4.1, ERYTHROCYTE FORM)	12-66								

PCGENE	1071784 Motif Search on All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
P412_HUMAN	NON-ERYTHROID PROTEIN 4.1 (BAND 4.1, LYMPHOID FORM)	3-30	708-735							
P42_HUMAN	ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2	173-200	518-545							
P4F2_HUMAN	4F2 CELL-SURFACE ANTIGEN HEAVY CHAIN (4F2HC) (LYMPHOCYTE ACTIVATION)	281-322								
P3H1E_HUMAN	5-HYDROXYTRYPTAMINE 1E RECEPTOR (5-HT-1E) (SEROTONIN RECEPTOR)	311-338								
P3H1F_HUMAN	5-HYDROXYTRYPTAMINE 1F RECEPTOR (5-HT-1F) (SEROTONIN RECEPTOR)	222-253								
P3H2A_HUMAN	5-HYDROXYTRYPTAMINE 2A RECEPTOR (5-HT-2A) (SEROTONIN RECEPTOR)	22-56								
P3H7_HUMAN	5-HYDROXYTRYPTAMINE 7 RECEPTOR (5-HT-7) (5-HT-X) (SEROTONIN RECEPTOR)	72-99								
P3IAC_HUMAN	ALPHA-1-ACID GLYCOPROTEIN 1 PRECURSOR (OROSOMUCOID) (OND)	98-132	330-357							
P3IAG_HUMAN	ALPHA-1-ANTITRYPSIN PRECURSOR (ALPHA-1-PROTEASE INHIBITOR) (ALPHA-1-)	92-119								
P3IAT_HUMAN	ALPHA-1-ANTITRYPSIN PRECURSOR (ALPHA-1-PROTEASE INHIBITOR) (ALPHA-1-)	168-202								
P3IAU_HUMAN	ALPHA-1-ANTITRYPSIN-RELATED PROTEIN PRECURSOR	163-197								
P3APL_HUMAN	ALPHA-2-ANTIPLASMIN PRECURSOR (ALPHA-2-PLASMIN INHIBITOR) (ALPHA-2-)	191-218	365-395							
P3ZGL_HUMAN	LEUCINE-RICH ALPHA-2-GLYCOPROTEIN (LRG)	104-134								
P3MIG_HUMAN	ALPHA-2-MACROGLOBULIN PRECURSOR (ALPHA-2-M)	51-80	319-349	1085-1112	1402-1429					
P4A_HUMAN	ALZHEIMER'S DISEASE AMYLOID A4 PROTEIN PRECURSOR (PROTEASE NEXIN-II)	428-455								
P4ACT_HUMAN	ALPHA-ACTININ (F-ACTIN CROSS LINKING PROTEIN)	92-119	720-747							
P4ATM_HUMAN	ASPARTATE AMINOTRANSFERASE, MITOCHONDRIAL PRECURSOR (EC 2.6.1.1)	109-136								
P4BP2_HUMAN	ENDOTHELIAL ACTIN-BINDING PROTEIN (ADP-280) (NONMUSCLE FILAMIN)	61-88	119-147	2604-2633						
P4C12_HUMAN	ACTIVATOR 1 37 KD SUBUNIT (REPLICATION FACTOR C 37 KD SUBUNIT) (A1)	306-333								
P4C13_HUMAN	ACTIVATOR 1 140 KD SUBUNIT (REPLICATION FACTOR C LARGE SUBUNIT) (A1)	14-51	182-209	668-700						
P4C0L_HUMAN	ACYL-COA DEHYDROGENASE PRECURSOR, LONG-CHAIN SPECIFIC (EC 1.3.99.13)	78-108	179-206	313-340						
P4CET_HUMAN	ANGIOTENSIN-CONVERTING ENZYME PRECURSOR, TESTIS-SPECIFIC (EC 3.4.15.1)	78-115	126-153	676-710						
P4CE_HUMAN	ANGIOTENSIN-CONVERTING ENZYME PRECURSOR, SOMATIC (EC 3.4.15.1) (ACE)	652-689	700-727	1250-1284						
P4CHA_HUMAN	ACETYLCHOLINE RECEPTOR PROTEIN, ALPHA CHAIN PRECURSOR	48-80								
P4CHE_HUMAN	ACETYLCHOLINE RECEPTOR PROTEIN, EPSILON CHAIN PRECURSOR	46-98								
P4CHG_HUMAN	ACETYLCHOLINE RECEPTOR PROTEIN, GAMMA CHAIN PRECURSOR	45-79	304-331							
P4PCH_HUMAN	NEURONAL ACETYLCHOLINE RECEPTOR PROTEIN, BETA-4 CHAIN (FRAGMENT)	29-56	70-97							
P4CRO_HUMAN	ACROSIN PRECURSOR (EC 3.4.21.10)	122-149								
P4CTM_HUMAN	ACYLPHOSPHATASE, MUSCLE TYPE ISOZYME (EC 3.6.1.7) (ACYLPHOSPHATE	26-53								
P4DT2_HUMAN	ADP-ATP CARRIER PROTEIN, FIBROBLAST ISOFORM (ADP/ATP TRANSLOCASE 2)	162-189								
P4DT3_HUMAN	ADP-ATP CARRIER PROTEIN, LIVER ISOFORM T2 (ADP/ATP TRANSLOCASE 3)	163-190								
P4K79_HUMAN	A-KINASE ANCHOR PROTEIN 79 (AKAP 79) (CAMP-DEPENDENT PROTEIN KINASE	197-238	381-414							
P4LFA_HUMAN	FRUCTOSE-BISPHOSPHATE ALDOLASE (EC 4.1.2.13) A (MUSCLE)	36-63								
P4LFB_HUMAN	FRUCTOSE-BISPHOSPHATE ALDOLASE (EC 4.1.2.13) B (LIVER)	79-113								
P4MD1_HUMAN	AMP DEAMINASE 1 (EC 3.5.4.6) (MYOADENYLATE DEAMINASE) (AMP DEAMINASE	59-86								
P4MD3_HUMAN	AMP DEAMINASE 3 (EC 3.5.4.6) (AMP DEAMINASE ISOFORM E)	49-76								
P4MPN_HUMAN	AMINOPEPTIDASE N (EC 3.4.11.3) (MICROSOMAL AMINOPEPTIDASE) (GP150)	492-523	604-648	926-964						
P4MPR_HUMAN	AMPHIREGULIN PRECURSOR (AR)	213-247								
P4MRP_HUMAN	ALPHA-2-MACROGLOBULIN RECEPTOR-ASSOCIATED PROTEIN PRECURSOR	173-236	263-290							
P4NFB_HUMAN	BRAIN NATRIURETIC PEPTIDE PRECURSOR	36-63								
P4NFK_HUMAN	ANKYRIN R (ANKYRINS 2.1 AND 2.2) (ERYTHROCYTE ANKYRIN)	812-839	1004-1031	1617-1644						
P4NKB_HUMAN	ANKYRIN, BRAIN VARIANT 1 (ANKYRIN B) (ANKYRIN, NONERYTHROID)	1544-1571								
P4NKC_HUMAN	ANKYRIN, BRAIN VARIANT 2 (ANKYRIN B) (ANKYRIN, NONERYTHROID)	1811-1838								
P4NPA_HUMAN	ATRIAL NATRIURETIC PEPTIDE RECEPTOR A PRECURSOR (ANP-A) (ANPRA) (GC-A)	553-580	825-852							
P4NPB_HUMAN	ATRIAL NATRIURETIC PEPTIDE RECEPTOR B PRECURSOR (ANP-B) (ANPRB) (GC-B)	810-837								
P4NPT_HUMAN	ANTITHROMBIN-III PRECURSOR (ATIII)	162-196								
P4NPX_HUMAN	ANNEXIN II (LIPOCORTIN II) (CALPACTIN I HEAVY CHAIN) (CHROMOBINDIN 8)	40-67	306-333							
P4NXX_HUMAN	ANNEXIN III (LIPOCORTIN III) (PLACENTAL ANTICOAGULANT PROTEIN III)	215-242								
P4NXX_HUMAN	ANNEXIN VI (LIPOCORTIN VI) (P68) (P70) (PROTEIN III) (CHROMOBINDIN 20)	60-87	626-653							
P4NXX_HUMAN	ANNEXIN, INTESTINE-SPECIFIC (ISA)	37-78	137-164							
P4OFA_HUMAN	AMINE OXIDASE (FLAVIN-CONTAINING) A (EC 1.4.3.4) (MONOAMINE OXIDASE)	16-43	74-104							
P4OFB_HUMAN	AMINE OXIDASE (FLAVIN-CONTAINING) B (EC 1.4.3.4) (MONOAMINE OXIDASE)	68-95								
P4PAL_HUMAN	APOLIPOPROTEIN A-1 PRECURSOR (APO-A1)	57-84								
P4PAB_HUMAN	APOLIPOPROTEIN B-100 PRECURSOR (APO B-100/APO B-48)	585-619	1073-1100	1355-1380	1524-1584	2074-2113	2132-2159	2181-2215	2240-2271	2360-2389
		2466-2507	2529-2559	2850-3000	3360-3390	3480-3570	3620-3654	4040-4074	4090-4120	4135-4167
		4274-4301	4397-4438	4463-4492	4499-4544					

PCGENE	1071-7844 Motif Search on All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	36-63								
PAPC2_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	145-172	617-651	834-861	1795-1822	2172-2212	2372-2609			
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	48-81	247-274							
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	4448-4475								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	19-73								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	523-553								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	69-103								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	223-250								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	215-242	305-332							
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	299-332								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	7-34								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	7-34								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	311-338	347-374							
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	163-190								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	163-190								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	201-230								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	155-183								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	30-61								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	34-68								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	351-394								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	129-163								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	114-141								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	292-319	345-372							
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	1081-1111								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	115-142	525-562	609-636						
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	106-140								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	120-147	310-337	773-807						
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	178-205								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	33-63								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	784-825								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	246-280	504-531							
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	216-250								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	202-229								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	274-301								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	192-219								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	284-311								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	168-195								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	10-37								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	128-162	353-385							
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	26-53								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	330-363								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	921-948								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	120-150								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	341-368								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	27-54								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	723-750								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	838-865								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	95-122	323-350							
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	384-411	580-607							
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	2-29								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	140-167								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	297-324	467-494							
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	561-588								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	257-284	502-529							
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	674-701								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	13-40								
PAPF_HUMAN	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	111-138	163-197	321-355						

PCGENE	1071784 Moll (Search on All Human Protein Sequences)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PCART_HUMAN	PROTEIN	217-244								
PCASB_HUMAN	CALRETININ (39 KD CALBINDIN)	14-48								
PCATB_HUMAN	BETA CASEIN PRECURSOR	422-436								
PCATD_HUMAN	CATALASE (EC 1.11.1.6)	251-282								
PCATH_HUMAN	CATHEPSIN D PRECURSOR (EC 3.4.21.5)	41-68								
PCATL_HUMAN	CATHEPSIN H PRECURSOR (EC 3.4.22.16)	278-305								
PCATL_HUMAN	CATHEPSIN L PRECURSOR (EC 3.4.22.15) (MAJOR EXCRETED PROTEIN) (NEP)	30-37	142-169							
PCAT5_HUMAN	CATHEPSIN S PRECURSOR (EC 3.4.22.27)	24-58	138-165							
PCBFB_HUMAN	CCAAT-BINDING TRANSCRIPTION FACTOR SUBUNIT B (CBF-B) (NF-Y PROTEIN)	88-122								
PCBG_HUMAN	CORTICOSTEROID-BINDING GLOBULIN PRECURSOR (CBG) (TRANSCORTIN)	69-129	278-305	319-346						
PCBPB_HUMAN	CARBOXYPEPTIDASE B PRECURSOR (EC 3.4.17.2) (PANCREAS-SPECIFIC PROTEIN)	355-382								
PCBPH_HUMAN	CARBOXYPEPTIDASE H PRECURSOR (EC 3.4.17.10) (CARBOXYPEPTIDASE E) (CPE)	35-62								
PCC21_HUMAN	CD21 HOMOLOG (P1-CD21) (FRAGMENT)	209-240								
PCC27_HUMAN	PROTEIN CDC27HS	1298-1342								
PCCG1_HUMAN	TRANSCRIPTION INITIATION FACTOR TFIID 250 KD SUBUNIT (TFP-ASSOCIATED)	142-169								
PCD14_HUMAN	MONOCYTE DIFFERENTIATION ANTIGEN CD14 PRECURSOR (MYELOID CELL-SPECIFIC)	32-63	281-308							
PCD1A_HUMAN	T-CELL SURFACE GLYCOPROTEIN CD1A PRECURSOR (CD1A ANTIGEN) (T-CELL)	77-104								
PCD1E_HUMAN	T-CELL SURFACE GLYCOPROTEIN CD1E PRECURSOR (CD1E ANTIGEN) (RQ21)	226-255								
PCD20_HUMAN	B-LYMPHOCYTE ANTIGEN CD20 (B-LYMPHOCYTE SURFACE ANTIGEN B1) (LEU-16)	226-255								
PCD2R_HUMAN	CD20 RECEPTOR PRECURSOR	88-119								
PCD2_HUMAN	T-CELL SURFACE ANTIGEN CD2 PRECURSOR (T-CELL SURFACE ANTIGEN)	74-108								
PCD4_HUMAN	HEMOPOIETIC PROGENITOR CELL ANTIGEN CD34 PRECURSOR	101-128								
PCD7_HUMAN	LEUKOCYTE ANTIGEN CD7	96-110	183-217							
PCD1G_HUMAN	T-CELL SURFACE GLYCOPROTEIN CD3 GAMMA CHAIN PRECURSOR (T-CELL RECEPT 7-34)	328-355								
PCD1L_HUMAN	CD30 LIGAND (CD30-L)	44-71	240-267							
PCD4_HUMAN	CD44 ANTIGEN, EPITHELIAL FORM PRECURSOR (CD44E) (PHAGOCYTIC)	87-114								
PCD4_HUMAN	T-CELL SURFACE GLYCOPROTEIN CD4 PRECURSOR (T-CELL SURFACE ANTIGEN)	118-177								
PCD3_HUMAN	LEUKOCYTE SURFACE ANTIGEN CD33	5-32								
PCD72_HUMAN	B-CELL DIFFERENTIATION ANTIGEN CD72 (LYB-2)	5-32								
PCD3_HUMAN	CELL DIVISION PROTEIN KINASE 3 (EC 2.7.1.1)	296-330								
PCD3_HUMAN	CELL DIVISION PROTEIN KINASE 4 (EC 2.7.1.1) (KINASE PSSALRE)	568-595								
PCBBB_HUMAN	CCAAT-ENHANCER BINDING PROTEIN BETA (CEBP BETA) (NUCLEAR FACTOR)	433-460								
PCENB_HUMAN	MAJOR CENTROMERE AUTOANTIGEN B (CENTROMERE PROTEIN B) (CENP-B)	372-399	493-520	533-607	715-752	767-825	850-884	903-947	963-995	1080-1107
PCENB_HUMAN	CENTROMERE PROTEIN C (CENP-C) (CENTROMERE AUTOANTIGEN C)	1122-1149	1179-1239	1250-1277	1340-1367	1486-1556	1646-1680	1684-1724	1808-1846	
PCENE_HUMAN	CENTROMERIC PROTEIN E (CENP-E PROTEIN)	1852-1883	1890-1917	1940-1988	2021-2048	2288-2318	2440-2478	2498-2563		
PCERU_HUMAN	CERULOPLASMIN PRECURSOR (EC 1.16.3.1) (FERROXIDASE)	913-940								
PCETR_HUMAN	CHOLESTERYL ESTER TRANSFER PROTEIN PRECURSOR	71-108								
PCFTR_HUMAN	CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR (CFTR)	158-189	802-829	895-922	1243-1270					
PCGCC_HUMAN	COMP-GATED CATION CHANNEL PROTEIN (CYCLIC NUCLEOTIDE)	216-243								
PCGL_HUMAN	CYSTATHIONINE GAMMA-LYASE (EC 4.4.1.1)	315-349								
PCHLR_HUMAN	CHLORDEONE REDUCTASE (EC 1.1.1.225) (CDR)	17-51								
PCHOT_HUMAN	CHOROIDEAEMIA-LIKE PROTEIN	56-97	230-257	451-478						
PCHOR_HUMAN	CHOROIDEAEMIA PROTEIN (TGD PROTEIN)	112-139								
PCINA_HUMAN	SODIUM CHANNEL PROTEIN, CARDIAC AND SKELETAL MUSCLE ALPHA-SUBUNIT	787-814	943-970							
PCICA_HUMAN	CLATHRIN LIGHT CHAIN A (BRAIN AND LYMPHOCYTE LCA)	121-148								
PCLCB_HUMAN	CLATHRIN LIGHT CHAIN B (BRAIN AND LYMPHOCYTE LCB)	123-157								
PCLCY_HUMAN	CALYCULIN (PROLACTIN RECEPTOR ASSOCIATED PROTEIN) (PRA) GROWTH	9-50								
PCLU5_HUMAN	CLUSTERIN PRECURSOR (COMPLEMENT-ASSOCIATED PROTEIN SP-40,40)	36-98	323-350	367-394						
PCMGA_HUMAN	CHROMOGRANIN A PRECURSOR (CGA) (CONTAINS: PANCREASTATIN AND WE-14)	93-120	430-457							
PCNTF_HUMAN	CILIARY NEUTROTROPHIC FACTOR (CNTF)	66-93								
PCO02_HUMAN	TUMOR-ASSOCIATED ANTIGEN CO-02	29-56	95-148							
PCO3_HUMAN	COMPLEMENT C3 PRECURSOR	242-276	593-620	837-867						
PCO4_HUMAN	COMPLEMENT C4 PRECURSOR	1792-1319								
PCO5_HUMAN	COMPLEMENT C5 PRECURSOR	298-342	517-564	970-997	1270-1304					
PCO6_HUMAN	COMPLEMENT C6 PRECURSOR	367-398								
PCO7_HUMAN	COMPLEMENT C7 PRECURSOR	225-261								

PCGENE	107a1/7a4 Motif Search on All Human Protein Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PCOXT1_HUMAN	Cytochrome C oxidase polypeptide 1 (EC 1.9.3.1)	353-380								
PCOXT2_HUMAN	Cytochrome P450 VII (cholesterol 7-alpha-monooxygenase)	203-290	346-373							
PCPCH1_HUMAN	Cytochrome P450 1C17 (EC 1.14.14.1) (P450-254C) (fragment)	109-136								
PCPCH2_HUMAN	Cytochrome P450 1B1 (EC 1.14.14.1) (P450-1) (ethanol inducible)	231-258								
PCPSM1_HUMAN	Carbamoyl-phosphate synthase (ammonia) mitochondrial precursor	112-146	420-447							
PCPT2_HUMAN	Mitochondrial carnitine palmitoyltransferase II precursor	410-437								
PCPT7_HUMAN	Cytochrome P450 2A1 (P450-C17) (EC 1.14.99.9) (steroid 17-alpha-hydroxylase)	226-257								
PCPV1_HUMAN	Cytochrome P450 2A1 (aromatase) (EC 1.14.14.1) (estrogen inducible)	234-271								
PCR2_HUMAN	Complement receptor type 2 precursor (CR2) (complement C3d receptor)	986-1013								
PCRCM1_HUMAN	Colorectal mutant cancer protein (MCC protein)	68-126	379-420	633-678	724-754	763-790				
PCREB1_HUMAN	CAMP response element binding protein A and B (CREB-A and CREB-B)	94-125								
PCREP1_HUMAN	CAMP response element binding protein CRE-BP1	380-414								
PCRP1_HUMAN	C-reactive protein precursor	60-87	150-177							
PCSI1_HUMAN	Cleavage signal-1 protein (CS-1)	203-233								
PCSF1_HUMAN	Macrophage colony stimulating factor-1 precursor (CSF-1) (M-CSF)	143-170								
PCST3_HUMAN	Cleavage stimulation factor, 50 kD subunit (CSTF 50 kD subunit) (CF-1)	6-33								
PCTN1_HUMAN	Alpha-catenin (cadherin-associated protein)	681-718								
PCTN2_HUMAN	Alpha-catenin related protein (catenin alpha-2)	680-717								
PCX26_HUMAN	Gap junction beta-2 protein (connexin 26) (CX26)	108-139								
PCX32_HUMAN	Gap junction beta-1 protein (connexin 32) (CX32) (gap junction 28 kD)	117-144								
PCX37_HUMAN	Gap junction alpha-4 protein (connexin 37) (CX37)	88-115								
PCYB5_HUMAN	Cytochrome B5	3-42								
PCYGI1_HUMAN	Guanylate cyclase soluble, beta-1 chain (EC 4.6.1.2) (70 kD chain)	80-107	126-153	332-396						
PCYGI2_HUMAN	Guanylate cyclase soluble, alpha-2 chain (EC 4.6.1.2)	106-133								
PCYGR1_HUMAN	Retinal guanylyl cyclase precursor (EC 4.6.1.2)	824-851								
PCYRO1_HUMAN	Cytokine receptor common gamma chain precursor (gamma-C)	293-320								
PCYTA1_HUMAN	Cystatin A (steifin A) (cystatin AS)	27-58								
PDBL1_HUMAN	Proto-oncogene Dbl precursor (contains: MCF2)	233-283	485-524	766-793	801-845					
PDES1_HUMAN	Desmin	131-180	272-312							
PDES2_HUMAN	Desmin	31-79	113-143	217-244	269-317	382-434	437-467	528-558	563-598	630-674
PDPAP1_HUMAN	Aldehyde dehydrogenase, dimeric NADP-preferencing (EC 1.2.1.3)	697-734	738-789	1456-1493	1508-1535					
PDM2_HUMAN	Dystrophin	31-58								
PDM3_HUMAN	Dystrophin	86-116	338-365	484-511	753-780	976-1003	1012-1039	1201-1228	1364-1394	1615-1674
PDM4_HUMAN	Dystrophin	1838-1865	2158-2185	2313-2343	2752-2779	2786-2830	2912-2958	3014-3041	3499-3533	
PDM5_HUMAN	Dystrophin	45-76								
PDM6_HUMAN	DNA ligase I (EC 6.3.1.1) (polynucleotide synthase (ATP))	130-157	355-392	732-759						
PDM7_HUMAN	DNA polymerase alpha (EC 2.7.7.7)	25-74	1009-1037	1100-1127						
PDM8_HUMAN	DNA polymerase delta catalytic chain (EC 2.7.7.7)	729-756								
PDM9_HUMAN	Dipeptidyl peptidase IV (EC 3.14.14.5) (DPP IV) (T-cell activation)	29-77	114-148							
PDM10_HUMAN	Deoxyribonuclease I precursor (EC 3.1.21.1) (DNase I)	44-71								
PDM11_HUMAN	Desmocollin 1 precursor (desmosomal glycoprotein I and III)	80-107	355-398							
PDM12_HUMAN	Desmoglein 1 precursor (desmosomal glycoprotein I) (DGI)	15-42	271-298	497-531						
PDM13_HUMAN	Desmoglein 3 precursor (130 kD pemphigus vulgaris antigen) (PVA)	211-248	325-352							
PDM14_HUMAN	Divergent upstream protein (DUP)	584-618								
PDM15_HUMAN	EBV-related protein EAR-1	523-550								
PDM16_HUMAN	EBV-induced G protein-coupled receptor 2 (EBI2)	44-78								
PDM17_HUMAN	Elongation factor 1-beta (EF-1-beta)	105-132								
PDM18_HUMAN	Elongation factor 1-delta (EF-1-delta)	84-118								
PDM19_HUMAN	Epidermal growth factor receptor precursor (EC 2.7.1.112)	64-91	440-467							
PDM20_HUMAN	Epidermal growth factor precursor, kidney (EGF) (urogastrone)	47-74								
PDM21_HUMAN	ETS-related transcription factor ELF-1	551-588								
PDM22_HUMAN	Endoplasmic reticulum protein (94 kD glucose-regulated protein) (GRP94) (GRP96)	47-74	246-273							
PDM23_HUMAN	Retrovirus-related env polyprotein	382-420								
PDM24_HUMAN	IG epsilon chain C region	161-188								
PDM25_HUMAN	Epimorphin	35-62	67-94	249-283						
PDM26_HUMAN	Protein disulfide isomerase-related protein precursor (ERp72)	58-85	142-169	458-485						
PDM27_HUMAN	DNA excision repair protein ERCC-1	240-270								

PCGENE	107,1784 Motif Search on All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN									
PERC6_HUMAN	EXCISION REPAIR PROTEIN ERCC-6	160-209	939-973							
PESTR_HUMAN	ESTROGEN RECEPTOR (ER)	451-488								
PET2_HUMAN	ENDOTHELIN-2 PRECURSOR (ET-2)	133-160								
PET3_HUMAN	ENDOTHELIN-3 PRECURSOR (ET-3)	182-209								
PEVZA_HUMAN	EVZIN PROTEIN PRECURSOR	29-36								
PEZBL_HUMAN	EBZIN (P91) (GYTOVILLIN) (VILLIN-2)	119-146	351-392	402-429	512-539					
PFAS_HUMAN	COAGULATION FACTOR V PRECURSOR	2103-2137								
PFAS8_HUMAN	COAGULATION FACTOR VIII PRECURSOR (PROCOAGULANT COMPONENT)	871-908	1007-1034	1194-1230						
PFAS9_HUMAN	COAGULATION FACTOR IX PRECURSOR (EC 3.4.21.22) (CHRISTMAS FACTOR)	271-298								
PFAB1_HUMAN	FATTY ACID-BINDING PROTEIN, INTESTINAL	98-125								
PFASA_HUMAN	APOPTOSIS-MEDIATING SURFACE ANTIGEN FAS PRECURSOR (APO-1 ANTIGEN)	23-50	249-301	306-333						
PFCEA_HUMAN	LOW AFFINITY IMMUNOGLOBULIN EPSILON FC RECEPTOR (LYMPHOCYTE IGE)	81-115								
PFCEA_HUMAN	HIGH AFFINITY IMMUNOGLOBULIN EPSILON RECEPTOR ALPHA-SUBUNIT (FCER1)	140-174								
PFGR3_HUMAN	FIBROBLAST GROWTH FACTOR RECEPTOR 2 PRECURSOR (EC 2.7.1.12)	310-337								
PFIBA_HUMAN	FIBRINOGEN ALPHA CHAIN PRECURSOR	131-165	427-457							
PFIBB_HUMAN	FIBRINOGEN BETA CHAIN PRECURSOR	149-186								
PFIBG_HUMAN	FIBRINOGEN GAMMA-A CHAIN PRECURSOR	59-93	125-160							
PFIBH_HUMAN	FIBRINOGEN GAMMA-B CHAIN (FIBRINOGEN GAMMA)	59-93	125-160							
PFIBI_HUMAN	FIBRONECTIN PRECURSOR	2168-2199								
PFIL1_HUMAN	ELL-1 ONCOGENE (ERGB TRANSCRIPTION FACTOR)	172-209								
PFMO3_HUMAN	DIMETHYLAHLANE MONOOXYGENASE (N-OXIDE FORMING) 3 (EC 1.14.13.8)	184-218	256-283	301-328						
PFOS_HUMAN	P53-C-FOS PROTO-ONCOGENE PROTEIN	162-193								
PFRA1_HUMAN	FOS-RELATED ANTIGEN 1	131-168								
PFRA2_HUMAN	FOS-RELATED ANTIGEN 2	149-180								
PFRIH_HUMAN	FERRITIN HEAVY CHAIN	7-34								
PFRL_HUMAN	FERRITIN LIGHT CHAIN	3-33								
PFSHR_HUMAN	FOLLICLE STIMULATING HORMONE RECEPTOR PRECURSOR (FSH-R)	364-395								
PFUCQ_HUMAN	TISSUE ALPHA-L-FUCOSIDASE PRECURSOR (EC 3.2.1.51) (ALPHA-L-FUCOSIDASE)	308-335								
PFUMH_HUMAN	FUMARATE HYDATASE, MITOCHONDRIAL (EC 4.2.1.2) (FUMARASE)	424-451								
PGOS1_HUMAN	PUTATIVE LYMPHOCYTE G0/G1 SWITCH PROTEIN	56-83								
PGI9P_HUMAN	PROTEIN KINASE C SUBSTRATE, 80 KD PROTEIN, HEAVY CHAIN (PKC δ)	146-173								
PGRI1_HUMAN	GLUCOSE-6-PHOSPHATE ISOMERASE (GPI) (EC 5.3.1.9) (PHOSPHOGLUCOSE)	16-50								
PGRI2_HUMAN	MAJOR GASTROINTESTINAL TUMOR-ASSOCIATED PROTEIN GA733-2 PRECURSOR	181-215								
PGA12_HUMAN	GALACTOKINASE 2 (EC 2.7.1.6)	254-281								
PGA11_HUMAN	GAMMA-AMINOBUTYRIC-ACID RECEPTOR ALPHA-1 SUBUNIT PRECURSOR (GABA(A) 210-237)									
PGA13_HUMAN	GAMMA-AMINOBUTYRIC-ACID RECEPTOR ALPHA-3 SUBUNIT PRECURSOR (GABA(A) 211-255)									
PGASR_HUMAN	GASTRIN/CHOLECYSTOKININ TYPE B RECEPTOR (CCK-B RECEPTOR)	75-105								
PGB01_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(I), ALPHA SUBUNIT 1	22-49								
PGB02_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(O), ALPHA SUBUNIT 2	22-49								
PGB03_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(K), ALPHA SUBUNIT (G(I) ALPHA-3)	22-49								
PGB04_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(S), ALPHA SUBUNIT (ADENYLATE)	7-34								
PGB05_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(T), ALPHA SUBUNIT (ALPHA-11)	95-122								
PGBB3_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(V)(G)(G)(T) BETA SUBUNIT 3	65-92								
PGBLP_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN BETA SUBUNIT-LIKE PROTEIN 12.3	110-137	255-282	289-316						
PGBP2_HUMAN	INTERFERON-INDUCED GUANYLATE-BINDING PROTEIN 2 (GUANINE NUCLEOTIDE-454-488)									
PGBT2_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(T), ALPHA-2 SUBUNIT (TRANSDUCIN	22-49								
PGCF_HUMAN	G-C-RICH SEQUENCE DNA-BINDING FACTOR (GCF) (TRANSCRIPTION FACTOR 9)	200-227	293-320	367-394	396-423	647-674				
PGCHI_HUMAN	GTP CYCLOHYDROLASE I (EC 3.5.4.16)	165-192								
PGCR1_HUMAN	GLUCOCORTICOID RECEPTOR, ALPHA (GR)	167-194								
PGCRB_HUMAN	GLUCOCORTICOID RECEPTOR, BETA (GR)	167-194								
PGCSP_HUMAN	GLYCINE DEHYDROGENASE (DECARBOXYLATING) PRECURSOR (EC 1.4.4.2)	460-487								
PGDN_HUMAN	GLIA DERIVED NEXIN (GDN) (PROTEASE NEXIN 1)	83-110								
PGELS_HUMAN	GELSOLIN PRECURSOR, PLASMA (ACTIN-DEPOLYMERIZING FACTOR) (ADF)	701-728								
PGFAP_HUMAN	GLIAL FIBRILLARY ACIDIC PROTEIN, ASTROCYTE	189-216	349-376	384-411						
PGLAS_HUMAN	N-ACETYLGLUCOSAMINE-6-SULFATASE PRECURSOR (EC 3.1.6.14) (G6S)	170-221								
PGLPK_HUMAN	GLYCEROL KINASE (EC 2.7.1.30) (ATP-GLYCEROL 3-PHOSPHOTRANSFERASE)	78-112	251-278							
PGLY1_HUMAN	SERINE HYDROXYMETHYLTRANSFERASE, CYTOSOLIC (EC 2.1.2.1) (SERINE	32-59	344-371							

PCGENE	107117a.4 Motif Search on All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN									
PGLY2_HUMAN	SERINE HYDROXYMETHYLTRANSFERASE, MITOCHONDRIAL (EC 2.1.2.1) (SERINE)	417-444								
PGR78_HUMAN	78 KD GLUCOSE REGULATED PROTEIN PRECURSOR (GRP 78) (IMMUNOGLOBULIN	598-625								
PGR42_HUMAN	GLYCINE RECEPTOR ALPHA-2 CHAIN PRECURSOR	142-169	341-368							
PGR4V_HUMAN	GRAVIN (FRAGMENT)	9-43	61-88							
PGRFR_HUMAN	GROWTH HORMONE-RELEASING HORMONE RECEPTOR PRECURSOR (GHRH RECEPT	128-155								
PGTH2_HUMAN	GLUTATHIONE S-TRANSFERASE HA SUBUNIT 2 (EC 2.1.1.19) (GTH2) (CLASS-	64-91								
PGTFA_HUMAN	GTPASE-ACTIVATING PROTEIN (GAP) (RAS P21 PROTEIN ACTIVATOR)	474-501	1012-1047							
POTR1_HUMAN	GLUCOSE TRANSPORTER TYPE 1, ERYTHROCYTE/BRAIN	274-301								
POTR3_HUMAN	GLUCOSE TRANSPORTER TYPE 3, BRAIN	272-299								
POTR4_HUMAN	GLUCOSE TRANSPORTER TYPE 4, INSULIN-RESPONSIVE	290-317								
PH10_HUMAN	HISTONE H1	44-89								
PH1A_HUMAN	HISTONE H1A (H1.1)	73-104								
PH1B_HUMAN	HISTONE H1B (H1.4)	70-101								
PH1C_HUMAN	HISTONE H1C (H1.3)	71-102								
PH1D_HUMAN	HISTONE H1D (H1.2)	70-101								
PH1T_HUMAN	HISTONE H1T	74-105								
PH2B0_HUMAN	HISTONE H2B.1	20-47								
PH2B2_HUMAN	HISTONE H2B.2	20-47								
PH2B3_HUMAN	HISTONE H2B.3	20-47								
PH2B4_HUMAN	HISTONE H2B.4	20-47								
PH2B5_HUMAN	HISTONE H2B.5	20-47								
PH2B6_HUMAN	HISTONE H2B.6	20-47								
PH2B7_HUMAN	HISTONE H2B.7	20-47								
PH2B8_HUMAN	HISTONE H2B.8	20-47								
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PH2B10_HUMAN	HISTONE H2B.10	20-47								
PH2B11_HUMAN	HISTONE H2B.11	20-47								
PH2B12_HUMAN	HISTONE H2B.12	20-47								
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PH2B15_HUMAN	HISTONE H2B.15	20-47								
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PH2B17_HUMAN	HISTONE H2B.17	20-47								
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PH2B21_HUMAN	HISTONE H2B.21	20-47								
PH2B22_HUMAN	HISTONE H2B.22	20-47								
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PH2B48_HUMAN	HISTONE H2B.48	20-47								
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PH2B145_HUMAN	HISTONE H2B.145	20-47								
PH2B146_HUMAN	HISTONE H2B.146	20-47								
PH2B147_HUMAN	HISTONE H2B.147	20-47								
PH2B148_HUMAN	HISTONE H2B.148	20-47								

PCGENE	1071784 Motif Search on All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN									
PILIR_HUMAN	INTERLEUKIN-1 RECEPTOR, TYPE I PRECURSOR (IL-1R1) (P80)	437-467								
PILIS_HUMAN	INTERLEUKIN-1 RECEPTOR, TYPE II PRECURSOR (IL-1R2)	159-186								
PILSR_HUMAN	INTERLEUKIN-3 RECEPTOR ALPHA CHAIN PRECURSOR (IL-3R-ALPHA)	87-114								
PIL6_HUMAN	INTERLEUKIN-6 PRECURSOR (IL-6) (B-CELL STIMULATORY FACTOR 2) (BSF-2)	112-139								
PINAJ_HUMAN	INTERFERON ALPHA-1 PRECURSOR	94-121								
PINAR_HUMAN	INTERFERON ALPHA-1 PRECURSOR (IFN-ALPHA-REC)	90-117	164-191	300-327	308-335					
PINB_HUMAN	INTERFERON BETA PRECURSOR (FIBROBLAST)	88-129								
PINI_HUMAN	INTERFERON-INDUCED 17 KD PROTEIN (CONTAINS: INTERFERON-INDUCED 15 KD	83-121								
PIN6_HUMAN	INTERFERON-INDUCED 16 KD PROTEIN (IFI-56K)	51-78	216-245	393-430						
PINSR_HUMAN	INSULIN RECEPTOR PRECURSOR (EC 2.7.1.112) (IR)	592-619	229-273	326-363	386-450					
PINYO_HUMAN	INVOLUCRIN	119-146								
PIPIK_HUMAN	ID-MYO-INOSITOL-TRISPHOSPHATE 3-KINASE A (EC 2.7.1.127) (INOSITOL	121-162								
PIPSP_HUMAN	PLASMA SERINE PROTEINASE (PROTEIN C) INHIBITOR PRECURSOR (PCI)	90-117	206-233							
PIRBP_HUMAN	INTERPHOTORECEPTOR RETINOID-BINDING PROTEIN PRECURSOR (IRBP)	670-697								
PIRF2_HUMAN	INTERFERON REGULATORY FACTOR 2 (IRF-2)	157-193								
PITSP_HUMAN	75 KD INOSITOL-1,4,5-TRISPHOSPHATE 3-PHOSPHATASE PRECURSOR	235-262								
PITAZ_HUMAN	PLATELET MEMBRANE GLYCOPROTEIN IIA PRECURSOR (GPIIa) (COLLAGEN RECEPTOR	579-606	906-927							
PITAS_HUMAN	FIBRONECTIN RECEPTOR ALPHA SUBUNIT PRECURSOR (INTEGRIN ALPHA-F)	250-284	657-695	765-792						
PITAG_HUMAN	INTEGRIN ALPHA-6 PRECURSOR (VLA-6) (INTEGRIN ALPHA-E) (CD49F)	884-911	944-974							
PITAL_HUMAN	LEUKOCYTE ADHESION GLYCOPROTEIN LFA-1 ALPHA CHAIN PRECURSOR (LEUKOC	256-283	310-341	795-822						
PITAM_HUMAN	CELL SURFACE GLYCOPROTEIN MAC-1 ALPHA SUBUNIT PRECURSOR (CR3 ALPHA	1044-1078								
PITAV_HUMAN	VITRONECTIN RECEPTOR ALPHA SUBUNIT PRECURSOR (INTEGRIN ALPHA-V)	230-264								
PITB1_HUMAN	FIBRONECTIN RECEPTOR BETA SUBUNIT PRECURSOR (INTEGRIN BETA-1) (CD29)	218-245	354-399							
PITB2_HUMAN	CELL SURFACE ADHESION GLYCOPROTEIN LFA-1, CR1 AND P150,95, BETA-	339-366	705-732							
PITB3_HUMAN	PLATELET MEMBRANE GLYCOPROTEIN IIIA PRECURSOR (GPIIb) (INTEGRIN BETA-	324-351								
PITB4_HUMAN	INTEGRIN BETA-4 SUBUNIT PRECURSOR (GPI150)	342-369								
PITB5_HUMAN	INTEGRIN BETA-5 SUBUNIT PRECURSOR	724-751								
PITB6_HUMAN	INTEGRIN BETA-6 SUBUNIT PRECURSOR	311-338	352-393							
PITB8_HUMAN	INTEGRIN BETA-8 SUBUNIT PRECURSOR	362-399	696-737							
PITIZ_HUMAN	INTER-ALPHA-TRYPsin INHIBITOR COMPLEX COMPONENT II PRECURSOR	362-399	696-737							
PKICJ_HUMAN	KERATIN, TYPE I CYTOSKELETAL 10 (CYTOKERATIN 10) (K10)	154-187	425-452	772-818						
PKICM_HUMAN	KERATIN, TYPE I CYTOSKELETAL 13 (CYTOKERATIN 13) (K13)	112-142	196-227	337-399	428-462					
PKICN_HUMAN	KERATIN, TYPE I CYTOSKELETAL 14 (CYTOKERATIN 14) (K14)	122-152	306-335	393-424						
PKICO_HUMAN	KERATIN, TYPE I CYTOSKELETAL 15 (CYTOKERATIN 15) (K15)	113-143								
PKICP_HUMAN	KERATIN, TYPE I CYTOSKELETAL 16 (CYTOKERATIN 16) (K16)	308-339								
PKICQ_HUMAN	KERATIN, TYPE I CYTOSKELETAL 17 (CYTOKERATIN 17) (K17)	122-152	302-346	393-431						
PKICR_HUMAN	KERATIN, TYPE I CYTOSKELETAL 18 (CYTOKERATIN 18) (K18)	87-114	251-298	337-385						
PKICS_HUMAN	KERATIN, TYPE I CYTOSKELETAL 19 (CYTOKERATIN 19) (K19)	88-118	317-362	370-397						
PKICU_HUMAN	KERATIN, TYPE I CYTOSKELETAL 1 (CYTOKERATIN 1) (K1)	196-226	346-384	390-467						
PKICV_HUMAN	KERATIN, TYPE I CYTOSKELETAL 65 KD	215-248	364-405	461-488						
PKICW_HUMAN	KERATIN, TYPE I CYTOSKELETAL 4 (CYTOKERATIN 4) (K4) (FRAGMENT)	42-73	126-153	189-248						
PKICX_HUMAN	KERATIN, TYPE I CYTOSKELETAL 5 (CYTOKERATIN 5) (K5) (98 KD	185-246	332-373							
PKICY_HUMAN	KERATIN, TYPE I CYTOSKELETAL 6 (CYTOKERATIN 6) (K6B KERATIN)	178-239	325-366	422-449						
PKICZ_HUMAN	KERATIN, TYPE I CYTOSKELETAL 8 (CYTOKERATIN 8) (K8)	140-167	120-161	217-244						
PKICF_HUMAN	6-PHOSPHOFRUCTOKINASE, MUSCLE TYPE (EC 2.7.1.11) (PHOSPHOFRUCTOKINASE	140-167								
PKICL_HUMAN	6-PHOSPHOFRUCTOKINASE, LIVER TYPE (EC 2.7.1.11) (PHOSPHOFRUCTOKINASE	49-80	128-159							
PKICB_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE ABL (EC 2.7.1.112) (P150)	498-525								
PKICD_HUMAN	IG KAPPA CHAIN C REGION	37-85								
PKICM_HUMAN	KALLMANN SYNDROME PROTEIN PRECURSOR (ADHESION MOLECULE-LIKE X-LINK	380-414								
PKICP_HUMAN	CAMP-DEPENDENT PROTEIN KINASE TYPE I ALPHA REGULATORY CHAIN	179-206								
PKICQ_HUMAN	CAMP-DEPENDENT PROTEIN KINASE TYPE I BETA REGULATORY CHAIN	177-204								
PKICR_HUMAN	CAMP-DEPENDENT PROTEIN KINASE TYPE II-ALPHA REGULATORY CHAIN	175-202	290-317							
PKICU_HUMAN	NUCLEAR FACTOR KAPPA-B SUBUNIT-1 (NF-KAPPA-B P105 SUBUNIT)	529-570								
PKICV_HUMAN	CREATINE KINASE, B CHAIN (EC 2.7.3.2)	301-328								
PKICW_HUMAN	TYROSINE KINASE ECK PRECURSOR (EC 2.7.1.112) (EPITHELIAL CELL	466-493								
PKICX_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE FER (EC 2.7.1.112) (P94-FER)	219-246	564-591							

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FILE NAME	PROTEIN	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PKFES_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE FES/FPS (EC 2.7.1.112) (C-FES)	101-145	295-322							
PKFEL_HUMAN	RECEPTOR-RELATED TYROSINE KINASE FLT RECEPTOR (EC 2.7.1.112)	208-235	319-353							
PKFMS_HUMAN	MACROPHAGE COLONY STIMULATING FACTOR I RECEPTOR PRECURSOR (CSF-1-R)	293-320								
PKFYN_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE FYN (EC 2.7.1.112) (P59-FYN)	199-233								
PKGPB_HUMAN	CGMP-DEPENDENT TYROSINE KINASE BETA ISOZYME (CKK) (EC 2.7.1.37)	17-54								
PKHEK_HUMAN	TYROSINE KINASE HEK RECEPTOR PRECURSOR (EC 2.7.1.112)	646-673								
PKINH_HUMAN	KINESIN HEAVY CHAIN	125-155	425-452	471-542	633-680	689-716	872-899			
PKKIT_HUMAN	KIT PROTO-ONCOGENE TYROSINE KINASE PRECURSOR (EC 2.7.1.112)	235-263								
PKMET_HUMAN	HEPATOCYTE GROWTH FACTOR RECEPTOR PRECURSOR (MET PROTO-ONCOGENE)	898-925								
PKNH_HUMAN	KINNOGEN-HMW PRECURSOR (ALPHA-2-THIOL PROTEINASE INHIBITOR)	505-532								
PKP36_HUMAN	GALACTOSYLTRANSFERASE ASSOCIATED PROTEIN KINASE PSB/TA (EC 2.7.1.1)	81-108								
PKP68_HUMAN	INTERFERON-INDUCED, DOUBLE-STRANDED RNA-ACTIVATED PROTEIN KINASE	149-179	191-225	285-312						
PKP78_HUMAN	PUTATIVE SERINE/THREONINE-PROTEIN KINASE P78 (EC 2.7.1.1)	582-609								
PKPCL_HUMAN	PROTEIN KINASE C, ETA TYPE (EC 2.7.1.1) (NPKC-ETA) (PKC-L)	318-345								
PKPTI_HUMAN	SERINE/THREONINE-PROTEIN KINASE PCT/AIR-1 (EC 2.7.1.1)	149-176	209-253							
PKPYL_HUMAN	PYRUVATE KINASE, M1 (MUSCLE) ISOZYME (EC 2.7.1.40) (CYTOSOLIC THYROID)	243-289								
PKPYR_HUMAN	PYRUVATE KINASE, M2 ISOZYME (EC 2.7.1.40)	243-289								
PKRET_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE RET (EC 2.7.1.112)	183-217								
PKROS_HUMAN	ROS PROTO-ONCOGENE TYROSINE-PROTEIN KINASE (EC 2.7.1.112) (FRAGMENT)	157-203								
PKSRC_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE SRC (EC 2.7.1.112) (P60-SRC)	143-170								
PKU7_HUMAN	LUPUS KU AUTOANTIGEN PROTEIN P70 (70 KD SUBUNIT OF KU ANTIGEN)	235-279								
PKUR6_HUMAN	LUPUS KU AUTOANTIGEN PROTEIN P86 (86 KD SUBUNIT OF KU ANTIGEN)	238-292								
PKYES_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE YES (EC 2.7.1.112) (P61-YES)	209-243								
PLAM1_HUMAN	LAMIN B1	32-66	117-144	152-193	214-241	397-424	480-507	510-539		
PLAM2_HUMAN	LAMIN A (70 KD LAMIN)	32-66	114-165	292-343						
PLAM3_HUMAN	LAMIN C	32-66	114-165	292-343						
PLAR_HUMAN	LAR PROTEIN PRECURSOR (LEUKOCYTE ANTIGEN RELATED) (EC 3.1.3.48)	935-969								
PLA_HUMAN	LUPUS LA PROTEIN (SIOGREN SYNDROME TYPE B ANTIGEN (SS-B))	191-222	295-342							
PLCAT_HUMAN	PHOSPHATIDYLCHOLINE-STEROL ACYLTRANSFERASE PRECURSOR (EC 2.3.1.43)	131-158								
PLDHF_HUMAN	L-LACTATE DEHYDROGENASE H CHAIN (EC 1.1.1.27) (LDH-B)	81-108	302-329							
PLDHM_HUMAN	L-LACTATE DEHYDROGENASE M CHAIN (EC 1.1.1.27) (LDH-A)	225-252								
PLDLK_HUMAN	LOW-DENSITY LIPOPROTEIN RECEPTOR PRECURSOR	483-510								
PLECH_HUMAN	ASIALOGLYCOPROTEIN RECEPTOR 1 (HEPATIC LECTIN HI) (ASGPR)	62-96								
PLEMB_HUMAN	P-SELECTIN PRECURSOR (GRANULE MEMBRANE PROTEIN 140) (GMP-140) (PADGEM)	32-59	87-116							
PLGLL_HUMAN	LACTOYLGLUTATHIONE LYASE (EC 4.4.1.5) (METHYLGLYOXALASE)	83-117								
PLIF_HUMAN	LEUKAEMIA INHIBITORY FACTOR PRECURSOR (LIF) (DIFFERENTIATION-)	95-122								
PLINI_HUMAN	LINE-1 REVERSE TRANSCRIPTASE HOMOLOG	152-179	232-263	298-358	671-698	874-901	1036-1066			
PLIPQ_HUMAN	TRIACYLGLYCEROL LIPASE PRECURSOR (EC 3.1.1.1) (LIPASE, GASTRIC)	158-185								
PLIPS_HUMAN	HORMONE SENSITIVE LIPASE (EC 3.1.1.1) (HSL)	305-332								
PLKHA_HUMAN	LEUKOTRIENE A-4 HYDROLASE (EC 3.3.2.6) (LTA-4 HYDROLASE) (LEUKOTRIENE	42-83	290-324							
PLMA_HUMAN	LAMININ A CHAIN PRECURSOR	1318-1345	1741-1771	1785-1812	1824-1851	1884-1921	1965-1999	2026-2039	2091-2118	
PLMB1_HUMAN	LAMININ B1 CHAIN PRECURSOR	1267-1314	1364-1394	1597-1631	1651-1714	1722-1781				
PLMB2_HUMAN	LAMININ B2 CHAIN PRECURSOR	1103-1135	1513-1547							
PLMP2_HUMAN	LYSOSOME-ASSOCIATED MEMBRANE GLYCOPROTEIN 2 PRECURSOR (LAMP-2)	155-182								
PLMX2_HUMAN	ARACHIDONATE 12-LIPOXYGENASE (EC 1.13.11.31) (12-LOX)	341-368								
PLMX3_HUMAN	ARACHIDONATE 5-LIPOXYGENASE (EC 1.13.11.34) (5-LIPOXYGENASE) (5-LO)	50-87								
PLPH_HUMAN	LACTASE-PHLOPHORIN HYDROLASE PRECURSOR (EC 3.2.1.108) (EC 3.2.1.62)	776-803								
PLRFB_HUMAN	PROTEIN-TYROSINE PHOSPHATASE BETA PRECURSOR (EC 3.1.3.48) (PTP-BETA)	140-167	589-637							
PLRGC_HUMAN	PROTEIN-TYROSINE PHOSPHATASE GAMMA PRECURSOR (EC 3.1.3.48)	1081-1108								
PLRP2_HUMAN	PROTEIN-TYROSINE PHOSPHATASE ZETA PRECURSOR (EC 3.1.3.48) (PTP-ZETA)	553-587	1024-1051	1973-2000						
PLSHR_HUMAN	LUTROPIN-CHORIOGONADOTROPIC HORMONE RECEPTOR (LH/CG-R)	66-114	448-480							
PLV2B_HUMAN	IG LAMBDA CHAIN V-J REGION (NEI)	61-88								
PLYAG_HUMAN	LYSOSOMAL ALPHA-GLUCOSIDASE PRECURSOR (EC 3.2.1.20) (ACID MALTASE)	885-912								
PM20M_HUMAN	MITOCHONDRIAL 2-OXOGLUTARATE/MALATE CARRIER PROTEIN (OGCP)	50-77								
PMAC2_HUMAN	GALACTOSE-SPECIFIC LECTIN (MAC-2 ANTIGEN) (ICE-BINDING PROTEIN) (35 KD	219-246								
PMAN9_HUMAN	MAN(9)-ALPHA-MANNOSIDASE (EC 3.2.1.1)	414-441								

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FILE NAME	PROTEIN	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PMANR_HUMA	MANNOSE-6-PHOSPHATE ISOMERASE (EC 5.3.1.8) (PHOSPHOMANNOSE ISOMERASE)	60-87								
PMANR_HUMA	MACROPHAGE MANNOSE RECEPTOR PRECURSOR	248-284	1147-1182							
PMAP2_HUMAN	MICROTUBULE-ASSOCIATED PROTEIN 2 (FRAGMENT)	434-478								
PMAP4_HUMAN	MICROTUBULE-ASSOCIATED PROTEIN 4	408-449								
PMAX_HUMAN	MAX PROTEIN	117-144								
PMDM2_HUMA	MDM2 PROTEIN (P53-ASSOCIATED PROTEIN)	235-288								
PMDR1_HUMAN	MULTIDRUG RESISTANCE PROTEIN 1 (P-GLYCOPROTEIN 1)	561-595								
PMERL_HUMAN	MERLIN (SCHWANNIN)	377-407	532-566							
PMERO_HUMAN	MEROSIN HEAVY CHAIN (LAMININ CHAIN A2) (FRAGMENT)	71-105	139-173	431-458	791-818					
PMGMT_HUMA	METHYLATED-DNA-PROTEIN-CYSTEINE METHYLTRANSFERASE (EC 2.1.1.60) (6-O-)	91-118								
PMK1L_HUMAN	MITOTIC KINESIN-LIKE PROTEIN-1	207-234	319-346	510-537	549-608					
PMK1L_HUMAN	MELANIN-CONCENTRATING HORMONE PRECURSOR	8-35								
PMK1L_HUMAN	MIXED LINEAGE KINASE 1 (EC 2.7.1.1) (FRAGMENT)	130-157	321-348							
PMK1L_HUMAN	METHYLMALONATE-SEMIALDEHYDE DEHYDROGENASE	393-420								
PMOES_HUMAN	MOESIN (MEMBRANE-ORGANIZING EXTENSION SPIKE PROTEIN)	119-146	351-403							
PMPCP_HUMAN	MITOCHONDRIAL PHOSPHATE CARRIER PROTEIN PRECURSOR	286-313								
PMPT3_HUMAN	M-Phase Inducer Phosphatase 3 (EC 3.1.3.48)	72-99								
PMPTK_HUMAN	DUAL SPECIFICITY MITOGEN-ACTIVATED PROTEIN KINASE (EC 2.7.1.1)	19-50								
PMPTK_HUMAN	CATION-INDEPENDENT MANNOSE-6-PHOSPHATE RECEPTOR PRECURSOR (CI MAN-6)	1569-1596	2437-2478							
PMR1_HUMAN	MULTIDRUG RESISTANCE-ASSOCIATED PROTEIN	396-423	507-548							
PMR1_HUMAN	MELANOCYTE STIMULATING HORMONE RECEPTOR (MSH-R) (MELANOTROPIN)	38-65								
PMR1_HUMAN	MACROPHAGE SCAVENGER RECEPTOR TYPES I AND II (MACROPHAGE ACETYLATED)	173-204	230-260							
PMR1_HUMAN	DNA (CYTOSINE-5)-METHYLTRANSFERASE (EC 2.1.1.37) (DNA)	387-414	601-628							
PMR1_HUMAN	MITOCHONDRIAL TRANSCRIPTION FACTOR 1 PRECURSOR (MTTF1)	181-212								
PMR1_HUMAN	METHYLMALONYL-COA MUTASE PRECURSOR (EC 5.4.99.3) (MCM)	468-519								
PMR1_HUMAN	INTERFERON-REGULATED RESISTANCE GTP-BINDING PROTEIN MAXA (INTERFERON-)	108-150								
PMR1_HUMAN	INTERFERON-REGULATED RESISTANCE GTP-BINDING PROTEIN MAXB (P78-RELATED)	670-697								
PMR1_HUMAN	MYB-RELATED PROTEIN A (FRAGMENT)	619-646								
PMR1_HUMAN	MYB-RELATED PROTEIN B	87-117								
PMR1_HUMAN	N-MYC ONCOGENE PROTEIN	263-300	413-461							
PMR1_HUMAN	MYC PROTO-ONCOGENE PROTEIN	393-422								
PMR1_HUMAN	MYOGENIC FACTOR MYF-4 (MYOGENIN)	119-146								
PMR1_HUMAN	MYOGENIC FACTOR MYF-5	121-148								
PMR1_HUMAN	MYELIN P2 PROTEIN	70-110								
PMR1_HUMAN	MYELIN PROTEOLIPID PROTEIN (PLP) (LIPOPHILIN) (CONTAINS: MYELIN)	43-70								
PMR1_HUMAN	MYOSIN HEAVY CHAIN, CARDIAC MUSCLE ALPHA ISOFORM (FRAGMENT)	38-75	84-111	137-178	236-324	398-435	440-485			
PMR1_HUMAN	MYOSIN HEAVY CHAIN, CARDIAC MUSCLE BETA ISOFORM	48-75	951-981	997-1044	1088-1122	1192-1234	1266-1332	1360-1408	1442-1479	1488-1532
PMR1_HUMAN	MYOSIN HEAVY CHAIN, FAST SKELETAL MUSCLE, EMBRYONIC	46-73	860-903	932-1077	1119-1146	1193-1235	1267-1340	1364-1411	1483-1597	1641-1675
PMR1_HUMAN	MYOSIN HEAVY CHAIN, PERINATAL CARDIAC MUSCLE (FRAGMENT)	1707-1734	1827-1858							
PMR1_HUMAN	MYOSIN HEAVY CHAIN, SKELETAL MUSCLE (FRAGMENT)	50-77	95-125	141-188	215-272	403-483	507-552	586-624	685-736	784-818
PMR1_HUMAN	MYOSIN HEAVY CHAIN, SKELETAL MUSCLE (FRAGMENT)	823-907	946-987	1049-1076						
PMR1_HUMAN	MYOSIN HEAVY CHAIN, SKELETAL MUSCLE (FRAGMENT)	133-160	193-280	304-349	423-460	468-526	581-608	645-681	743-798	808-835
PMR1_HUMAN	MYELIN TRANSCRIPTION FACTOR 1 (MYT1) (FRAGMENT)	640-678								
PMR1_HUMAN	SODIUM/CALCIUM EXCHANGER PRECURSOR (NA+/CA2+-EXCHANGE PROTEIN)	492-519								
PMR1_HUMAN	NEURAL CELL ADHESION MOLECULE, PHOSPHATIDYLINOSITOL-LINKED ISOFORM	235-282								
PMR1_HUMAN	NEUTROPHIL CYTOSOL FACTOR 1 (NCF-47K) (47 KD AUTOSOMAL CHRONIC)	234-261	310-337							
PMR1_HUMAN	NEUTROPHIL NADPH OXIDASE FACTOR (p67-PHOX)	5-32								
PMR1_HUMAN	DNA-BINDING PROTEIN NEFA PRECURSOR	50-77	82-112	343-395						
PMR1_HUMAN	NEPRILYSIN (EC 3.4.24.11) (NEUTRAL ENDOPEPTIDASE) (NEP)	170-216	644-671							
PMR1_HUMAN	NEUROFIBROMIN (NEUROFIBROSIS-RELATED PROTEIN NF-1) (FRAGMENT)	1145-1172	1388-1422	1639-1666						
PMR1_HUMAN	NEUROFILAMENT TRIPLET H PROTEIN (200 KD NEUROFILAMENT PROTEIN) (NF-H)	91-128	431-490							
PMR1_HUMAN	NEUROFILAMENT TRIPLET L PROTEIN (68 KD NEUROFILAMENT PROTEIN) (NF-L)	92-126	441-468							
PMR1_HUMAN	NEUROFILAMENT TRIPLET M PROTEIN (160 KD NEUROFILAMENT PROTEIN) (NF-M)	101-141	164-194	215-280	315-372	737-764	794-826	872-913		
PMR1_HUMAN	SUBSTANCE-P RECEPTOR (SPR) (NK-1 RECEPTOR) (NK-1B)	338-365								
PMR1_HUMAN	NATURAL KILLER CELLS PROTEIN 4 PRECURSOR	166-193								

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FILE NAME	PROTEIN	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PKCKR_HUMAN	NK-TUMOR RECOGNITION PROTEIN (NATURAL-KILLER CELLS CYCLOPHILIN-)	187-214	448-475	559-599	701-742	816-843	1080-1133			
PKKGA_HUMAN	NKG2-A AND NKG2-B TYPE II INTEGRAL MEMBRANE PROTEINS.	28-55								
PNOS1_HUMAN	NITRIC-OXIDE SYNTHASE, BRAIN (EC 1.14.13.39) (NOS, TYPE I).	389-416								
PNOS3_HUMAN	NITRIC-OXIDE SYNTHASE, ENDOTHELIAL (EC 1.14.13.39) (EC-NOS) (NOS,	389-416	1116-1146	1292-1319						
PNIG1_HUMAN	SODIUM- AND CHLORIDE-DEPENDENT GABA TRANSPORTER 1.	131-158								
PNIR_HUMAN	NEUROTENSIN RECEPTOR (NT-R).	57-84								
PNISE_HUMAN	SODIUM-DEPENDENT SEROTONIN TRANSPORTER (SHT TRANSPORTER) (SHTT).	71-98								
PNITTA_HUMAN	SODIUM- AND CHLORIDE-DEPENDENT TAURINE TRANSPORTER	120-147								
PNJ2M_HUMAN	NADH:UBIQUINONE OXIDOREDUCTASE CHAIN 2 (EC 1.6.5.3).	202-240								
PNJ4M_HUMAN	NADH:UBIQUINONE OXIDOREDUCTASE CHAIN 4 (EC 1.6.5.3).	164-191	372-399							
PNJUB_HUMAN	NUCLEOBINDIN PRECURSOR.	46-73	360-387							
PNJUL_HUMAN	NUCLEOLIN (PROTEIN C23).	462-508								
PNY3R_HUMAN	PUTATIVE NEUROPEPTIDE Y RECEPTOR TYPE 3 (NPY3-R) (FB22) (NPYRL).	115-142								
POAT_HUMAN	ORNITHINE AMINOTRANSFERASE PRECURSOR (EC 2.6.1.13) (ORNITHINE- α -OXI-	98-124								
POCJA_HUMAN	OCTAMER-BINDING TRANSCRIPTION FACTOR 3A (OCT-3A).	139-173								
POCJB_HUMAN	OCTAMER-BINDING TRANSCRIPTION FACTOR 3B (OCT-3B).	37-78								
POCLL_HUMAN	LOWE'S OCULOCECEREBRORENAL SYNDROME PROTEIN.	704-735								
PODB2_HUMAN	LIPOLAMIDE ACTYLTRANSFERASE COMPONENT (E2) PRECURSOR OF BRANCHED-CHA	100-127	375-402							
PODP2_HUMAN	DIHYDROLIPOAMIDE ACETYLTRANSFERASE COMPONENT (E2) OF PYRUVATE	72-99								
POMGP_HUMAN	OLIGODENDROCYTE-MYELIN GLYCOPROTEIN PRECURSOR (OMG).	51-80								
POPSB_HUMAN	BLUE-SENSITIVE OPSIN (BLUE CONE PHOTORECEPTOR PIGMENT).	220-247								
POPSG_HUMAN	GREEN-SENSITIVE OPSIN (GREEN CONE PHOTORECEPTOR PIGMENT).	90-117	239-266							
POPSR_HUMAN	RED-SENSITIVE OPSIN (RED CONE PHOTORECEPTOR PIGMENT).	90-117	239-266							
POSTP_HUMAN	OSTEOPONTIN PRECURSOR (BONE SIALOPROTEIN 1) (URINARY STONE PROTEIN)	239-266								
POTC_HUMAN	ORNITHINE CARBAMOYLTRANSFERASE PRECURSOR (EC 2.1.3.3).	170-204								
POTNC_HUMAN	OSTEONECTIN PRECURSOR (BASEMENT MEMBRANE PROTEIN BM-40).	173-207								
POXYB_HUMAN	OXYSTEROL-BINDING PROTEIN.	89-123	190-217	290-317	577-604					
POXYR_HUMAN	OXYTOCIN RECEPTOR (OT-R).	350-377								
PP107_HUMAN	RETINOBLASTOMA-ASSOCIATED PROTEIN-LIKE 107 KD HOMOLOG (P107)	159-186	422-449							
PP1DP_HUMAN	DNA POLYMERASE ALPHA HOLOENZYME-ASSOCIATED PROTEIN P1.	19-60	637-664							
PP47_HUMAN	PLECKSTRIN (P47).	298-325								
PP4HA_HUMAN	PROLYL 4-HYDROXYLASE ALPHA SUBUNIT PRECURSOR (EC 1.14.11.2).	29-69	191-218							
PP60_HUMAN	MITOCHONDRIAL MATRIX PROTEIN P1 PRECURSOR (P60 LYMPOCYTE PROTEIN)	72-99	271-298	361-407						
PP6SA_HUMAN	PHOSPHATIDYLINOSITOL 3-KINASE REGULATORY ALPHA SUBUNIT (PI3-KINASE	12-39	428-476	586-613	688-715					
PPAP1_HUMAN	PANCREATITIS ASSOCIATED PROTEIN 1 PRECURSOR	71-104								
PPAX3_HUMAN	PAIRED BOX PROTEIN PAX-3 (B-CELL SPECIFIC TRANSCRIPTION FACTOR)	157-187								
PPDGA_HUMAN	PLATELET-DERIVED GROWTH FACTOR, A CHAIN PRECURSOR (PDGF A-CHAIN)	38-65								
PPEC1_HUMAN	PLATELET ENDOTHELIAL CELL ADHESION MOLECULE PRECURSOR (PECAM-1)	685-719								
PPENK_HUMAN	PROENKEPHALIN A PRECURSOR	142-176								
PPERK_HUMAN	EOSINOPHIL PEROXIDASE PRECURSOR (EC 1.11.1.7) (EPO) (FRAGMENT).	308-335								
PPERF_HUMAN	PERFORIN 1 PRECURSOR (P1) (LYMPHOCYTE PORE FORMING PROTEIN) (PPF).	411-438								
PPFAL_HUMAN	PLATELET BASIC PROTEIN PRECURSOR (PBP) (CONTAINS: CONNECTIVE-TISSUE	21-55								
PPGCA_HUMAN	CARTILAGE-SPECIFIC PROTEOGLYCAN CORE PROTEIN PRECURSOR (CSRCP)	71-100								
PPGCS_HUMAN	LARGE FIBROBLAST PROTEOGLYCAN PRECURSOR (VERSICAN) (CHONDROITIN	64-98	1390-1417	1553-1580						
PPGDH_HUMAN	15-HYDROXYPROSTAGLANDIN DEHYDROGENASE (NAD ⁺) (EC 1.1.1.141) (PGDH).	87-118								
PPGDR_HUMAN	BETA PLATELET-DERIVED GROWTH FACTOR RECEPTOR PRECURSOR (EC 2.7.1.112).	294-321	354-384	465-495						
PPGDS_HUMAN	ALPHA PLATELET-DERIVED GROWTH FACTOR RECEPTOR PRECURSOR	64-94	347-395	461-488	524-551	986-1058				
PPGHS_HUMAN	PROSTAGLANDIN G/H SYNTHASE PRECURSOR (EC 1.14.99.1) (CYCLOOXYGENASE)	331-358								
PPGST_HUMAN	BONE/CARTILAGE PROTEOGLYCAN 1 PRECURSOR (BIGLYCAN) (PG-S1).	100-127								
PPPH4H_HUMAN	PHENYLALANINE-4-HYDROXYLASE (EC 1.14.16.1) (PAH) (PHE-4-	239-266								
PPPHB_HUMAN	PROHIBITIN	41-68								
PPPOS_HUMAN	PHOSDUCIN (33 KD PHOTOTRANSDUCING PROTEIN) (MEKA PROTEIN).	184-225								
PPHS1_HUMAN	GLYCOCEN PHOSPHORYLASE, LIVER FORM (EC 2.4.1.1).	116-143								
PPHS2_HUMAN	GLYCOCEN PHOSPHORYLASE, MUSCLE FORM (EC 2.4.1.1).	512-559								
PPHS3_HUMAN	GLYCOCEN PHOSPHORYLASE, BRAIN FORM (EC 2.4.1.1).	513-560								
PPIP4_HUMAN	1-PHOSPHATIDYLINOSITOL-4-BISPHOSPHATE PHOSPHODIESTERASE BETA 2	908-935								

PCGENE	10717844 Motif Search on All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PP1P3_HUMAN	1-PHOSPHATIDYLINOSITOL-4,5-BISPHOSPHATE PHOSPHODIESTERASE GAMMA 2	142-169	239-266							
PP1A3_HUMAN	PLAKOGLOBIN (DESMOPLAKIN III)	373-400								
PP1S1_HUMAN	L-PLASTIN (FIMBRIN)	507-534								
PP1S2_HUMAN	T-PLASTIN (FIMBRIN)	510-561								
PPM22_HUMAN	PERIPHERAL MYELIN PROTEIN 22 (PMP-22)	3-33								
PPMGB_HUMAN	PHOSPHOGLYCERATE MUTASE, BRAIN FORM (EC 5.4.2.1) (PGAM-B) (EC 5.4.2.4)	81-111								
PPMGM_HUMAN	PHOSPHOGLYCERATE MUTASE, MUSCLE FORM (EC 5.4.2.1) (PGAM-M)	81-115								
PPML1_HUMAN	PROBABLE TRANSCRIPTION FACTOR PML-1	551-585								
PPMLX_HUMAN	PROBABLE TRANSCRIPTION FACTOR PML-X	551-585								
PPMSC_HUMAN	AUTOANTIGEN PM-SCL	103-130								
PPPGA_HUMAN	DNA-BINDING PROTEIN PO-GA	14-51	182-209	610-637	667-699					
PPPOL1_HUMAN	RETROVIRUS-RELATED POL YPO PROTEIN (REVERSE TRANSCRIPTASE)	774-804								
PPPOL2_HUMAN	RETROVIRUS-RELATED POL YPO PROTEIN (FRAGMENT)	78-138	171-205							
PPPOL3_HUMAN	OUTER MITOCHONDRIAL MEMBRANE PROTEIN PORIN (VOLTAGE-DEPENDENT ANION)	33-76	189-216							
PPPA2_HUMAN	PROSTATIC ACID PHOSPHATASE PRECURSOR (EC 3.1.3.2)	235-269								
PPPAS_HUMAN	RED CELL ACID PHOSPHATASE 1, ISOZYME S (EC 3.1.3.2) (ACP1)	26-53								
PPPOL_HUMAN	NAD(+) ADP-RIBOSYLTRANSFERASE (EC 2.4.2.30) (POLY (ADP-RIBOSE))	699-729	972-1003							
PPPC3_HUMAN	PROTEASOME COMPONENT C3 (EC 3.4.99.46) (MACROPAIN SUBUNIT C3)	39-46								
PPPC3_HUMAN	PROTEASOME COMPONENT C3 (EC 3.4.99.46) (MACROPAIN SUBUNIT C3)	34-61								
PPPC9_HUMAN	PROTEASOME COMPONENT C9 (EC 3.4.99.46) (MACROPAIN SUBUNIT C9)	203-261								
PPRCR_HUMAN	PROGESTERONE RECEPTOR (PR) (FORMS A AND B)	846-890								
PPRTS_HUMAN	VITAMIN K-DEPENDENT PROTEIN S (BLOOD CLOTTING) PRECURSOR	337-371								
PPRTZ_HUMAN	VITAMIN K-DEPENDENT PROTEIN Z PRECURSOR	29-56								
PPSOR_HUMAN	PSORIASIN	65-92								
PPSPD_HUMAN	PULMONARY SURFACTANT-ASSOCIATED PROTEIN D PRECURSOR (PSP-D) (SP-D)	224-251								
PPPTH_HUMAN	PARATHYROID HORMONE PRECURSOR (PARATHYRIN)	86-113								
PPPT1_HUMAN	PROTEIN-TYROSINE PHOSPHATASE 1B (EC 3.1.3.48) (PTP-1B)	136-177								
PPPT2_HUMAN	T-CELL PROTEIN-TYROSINE PHOSPHATASE (EC 3.1.3.48) (TCPTP)	59-86	138-178							
PPPT6_HUMAN	PROTEIN-TYROSINE PHOSPHATASE 1C (EC 3.1.3.48) (PTP-1C) (HEMATOPOIETIC)	227-261	512-580							
PPPT6_HUMAN	PROTEIN-TYROSINE PHOSPHATASE 2C (EC 3.1.3.48) (PTP-2C) (PTP-1D)	41-68	218-245							
PPPT6_HUMAN	PROTEIN-TYROSINE PHOSPHATASE G1 (EC 3.1.3.48) (PTPG1)	618-645	695-722							
PPPT8_HUMAN	PARATHYROID HORMONE/PARATHYROID HORMONE-RELATED PEPTIDE	368-395								
PPPTX_HUMAN	PENTAXIN-RELATED PROTEIN PTX3 PRECURSOR	74-101								
PPPUR3_HUMAN	PHOSPHORIBOSYLAMINE-GLYCINE LIGASE (EC 6.3.4.13) (GARS) (GLYCINAMIDE)	803-830								
PPUR6_HUMAN	MULTIFUNCTIONAL PROTEIN ADE2H1 (PHOSPHORIBOSYLAMINOIMIDAZOLE-)	391-418								
PPUR8_HUMAN	ADENYLOSUCCINATE LYASE (EC 4.3.2.3) (ADENYLOSUCCINASE) (ASL)	204-231								
PPYRS_HUMAN	URIDINE 5'-MONOPHOSPHATE SYNTHASE (UMP SYNTHASE) (OROTATE)	120-150								
PPYRG_HUMAN	CTP SYNTHASE (EC 6.3.4.2) (UTP-AMMONIA LIGASE) (CTP SYNTHETASE)	86-113	300-334							
PPZP_HUMAN	PREGNANCY ZONE PROTEIN PRECURSOR	315-354	990-1024	1162-1189	1405-1432					
PRAT4_HUMAN	TRANSCRIPTION FACTOR IIF, ALPHA SUBUNIT (TFIIF, ALPHA SUBUNIT)	474-501								
PRAB4_HUMAN	RAS-RELATED PROTEIN RAB-4	38-65								
PRAB6_HUMAN	RAS-RELATED PROTEIN RAB-6	123-150								
PRADI_HUMAN	RADIXIN	308-335	414-463	510-537						
PRB11_HUMAN	RAS-RELATED PROTEIN RAB-11 (24KG) (YLR)	151-178								
PRBB3_HUMAN	RETINOBLASTOMA BINDING PROTEIN 3 (RBBP-3) (PRB-BINDING PROTEIN E2F-1)	129-156	161-223							
PRDP_HUMAN	RD PROTEIN	9-53								
PRENI_HUMAN	RENIN PRECURSOR, RENAL (EC 3.4.23.15) (ANGIOTENSINOGENASE)	136-163								
PREST_HUMAN	RESTIN (CYTOPLASMIC LINKER PROTEIN-170 ALPHA-2) (CLIP-170)	190-217	333-370	445-472	571-619	744-771	784-852	1023-1050	1088-1139	1157-1184
PRFAL_HUMAN	REPLICATION PROTEIN A 70 KD DNA-BINDING SUBUNIT (RP-A) (RF-A)	1216-1306								
PRFP_HUMAN	TRANSFORMING PROTEIN (RFP) (RET FINGER PROTEIN)	208-235	425-455							
PRH_HUMAN	BLOOD GROUP RH(D) POLYPEPTIDE	183-217								
PRIB1_HUMAN	RIBOPHORIN I PRECURSOR	361-388								
PRIB2_HUMAN	RIBOPHORIN II PRECURSOR	81-108	496-530							
PRIB1_HUMAN	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE M1 CHAIN (EC 1.17.4.1)	142-172	361-388							
PRL23_HUMAN	60S RIBOSOMAL PROTEIN L22 (EPSTEIN-BARR VIRUS SMALL RNA ASSOCIATED)	42-69	370-400							
PRL26_HUMAN	60S RIBOSOMAL PROTEIN L26	78-112	103-137							

PCGENE	1071178.4 Motif Search on All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PTAPB_HUMAN	PROTEIN	296-323								
PTAPD_HUMAN	TRANSCRIPTION FACTOR JUN-B	296-323								
PTAUJ_HUMAN	TRANSCRIPTION FACTOR JUN-D	296-323								
PTAUJ_HUMAN	MICROTUBULE-ASSOCIATED PROTEIN TAU	278-305								
PTAU2_HUMAN	MICROTUBULE-ASSOCIATED PROTEIN TAU, FETAL	211-238								
PTCOJ_HUMAN	TRANSCOBALAMIN I PRECURSOR	201-241	330-337							
PTCPI_HUMAN	T-COMPLEX PROTEIN I (TCP-1)	316-343								
PTDT_HUMAN	DNA NUCLEOTIDYLTRANSFERASE (EC 2.7.7.1) (TERMINAL ADDITION ENZYME)	61-95								
PTDK_HUMAN	RECEPTOR TYROSINE KINASE TEK PRECURSOR (EC 2.7.1.12) (ITPK-6)	644-678	960-996	1007-1016						
PTF2B_HUMAN	TRANSCRIPTION INITIATION FACTOR IIB (TFIIB)	135-162								
PTF2B_HUMAN	TRANSCRIPTION FACTOR E1 (FRAGMENT)	43-70	122-149	178-226						
PTF2B_HUMAN	TRANSCRIPTION ELONGATION FACTOR S-II	29-56								
PTF_HUMAN	TISSUE FACTOR PRECURSOR (TF) (COAGULATION FACTOR III)	148-175								
PTGFI_HUMAN	TRANSFORMING GROWTH FACTOR BETA 1 PRECURSOR (TGF-BETA 1)	148-185								
PTGF2_HUMAN	TRANSFORMING GROWTH FACTOR BETA 2 PRECURSOR (TGF-BETA 2) (GLI0311.ASTO)	243-270								
PTGFA_HUMAN	TRANSFORMING GROWTH FACTOR ALPHA PRECURSOR (TGF-ALPHA) (EGF-LIKE TOH)	87-114								
PTGLK_HUMAN	PROTEIN-GLUTAMINE GAMMA-GLUTAMYLTRANSFERASE K (EC 2.3.2.13)	258-285								
PTHBS_HUMAN	THROMBOSPONDIN PRECURSOR	110-165	284-314							
PTHK_HUMAN	3-KETOACYL-COA THIOLASE PEROXISOMAL PRECURSOR (EC 2.3.1.16) (BETA-)	185-212								
PTKRB_HUMAN	PROTACHYKININ BETA PRECURSOR (CONTAINS: SUBSTANCE P, NEUROKININ A)	11-38								
PTLEJ_HUMAN	TRANSUDIN-LIKE ENHANCER PROTEIN 1	628-653								
PTLEJ_HUMAN	TRANSUDIN-LIKE ENHANCER PROTEIN 2	94-125								
PTLEJ_HUMAN	TRANSUDIN-LIKE ENHANCER PROTEIN 4 (FRAGMENT)	304-331								
PTLEJ_HUMAN	TRANSUDIN-LIKE ENHANCER PROTEIN 4 (FRAGMENT)	19-46	503-532							
PTOPB_HUMAN	DNA TOPOISOMERASE II ALPHA ISOZYME (EC 5.99.1.3)	35-65	616-647							
PTOPB_HUMAN	DNA TOPOISOMERASE II BETA ISOZYME (EC 5.99.1.3)	16-74	82-116							
PTPM3_HUMAN	TROPOMYOSIN, FIBROBLAST ISOFORM TM3	16-74	82-116							
PTPMA_HUMAN	TROPOMYOSIN ALPHA CHAIN, SKELETAL MUSCLE	16-43	47-74	82-116	147-174	191-237	243-277			
PTPMB_HUMAN	TROPOMYOSIN BETA CHAIN, SKELETAL MUSCLE	37-116	193-240							
PTPMC_HUMAN	TROPOMYOSIN ALPHA CHAIN, CARDIAC MUSCLE	16-74	82-116	193-277						
PTPMF_HUMAN	TROPOMYOSIN, FIBROBLAST AND EPITHELIAL MUSCLE-TYPE (TM16) (TIME1)	37-116	210-240	243-270						
PTPMG_HUMAN	TROPOMYOSIN, FIBROBLAST AND EPITHELIAL MUSCLE-TYPE (TM16) (TIME1)	46-80	111-138	158-199	207-234					
PTPMI_HUMAN	TROPOMYOSIN, CYTOSKELETAL TYPE (TM10NM)	46-80	111-138	172-199						
PTPMS_HUMAN	TROPOMYOSIN ALPHA CHAIN, SMOOTH MUSCLE (FRAGMENT)	25-59	147-178							
PTPP2_HUMAN	TRIPEPTIDYL-PEPTIDASE II (EC 3.4.14.10) (TPP II) (TRIPEPTIDYL)	153-187	1004-1031	1160-1187						
PTPR_HUMAN	TPR ONCOGENE (FRAGMENT)	82-147								
PTRJ6_HUMAN	TREB16 PROTEIN	18-45	242-269							
PTRR_HUMAN	THYROTROPIN-RELEASING HORMONE RECEPTOR (TRH-R) (THYROLIBERIN)	349-383								
PTRIC_HUMAN	TROPONIN I, CARDIAC MUSCLE	36-63								
PTRKA_HUMAN	HIGH AFFINITY NERVE GROWTH FACTOR RECEPTOR PRECURSOR (EC 2.7.1.12)	66-93	117-148							
PTRSR_HUMAN	TRANSFERRIN RECEPTOR PROTEIN (TR) (ANTIGEN CD71) (TY)	188-215	366-393							
PTSHR_HUMAN	THYROTROPIN RECEPTOR PRECURSOR (TSH-R)	87-117	420-447							
PTTK_HUMAN	PROTEIN KINASE TKK (EC 2.7.1.1)	170-197	324-359	510-544	540-583					
PTTK2_HUMAN	NON-RECEPTOR TYROSINE-PROTEIN KINASE TYK2 (EC 2.7.1.12)	150-177								
PUBA1_HUMAN	UBIQUITIN-ACTIVATING ENZYME E1 (A159 PROTEIN)	448-475								
PUBF1_HUMAN	NUCLEOLAR TRANSCRIPTION FACTOR 1 (UPSTREAM BINDING FACTOR 1) (UBF-1)	227-254								
PUDP9_HUMAN	UDP-GLUCURONOSYLTRANSFERASE PRECURSOR, MICROSMAL (EC 2.4.1.17)	227-254								
PUDF_HUMAN	RECEPTOR TYROSINE-PROTEIN KINASE UFO PRECURSOR (EC 2.7.1.12)	488-522								
PUSF1_HUMAN	UPSTREAM STIMULATORY FACTOR 1	251-295								
PVATC_HUMAN	VACUOLAR ATP SYNTHASE SUBUNIT C (EC 3.6.1.34) (V-ATPASE C SUBUNIT)	47-74	117-147							
PVIL1_HUMAN	VILLIN	318-372	427-461	717-744						
PVIME_HUMAN	VIMENTIN	119-146	233-260							
PVINC_HUMAN	VINCULIN	108-135								
PVPRT_HUMAN	RETROVIRUS-RELATED PROTEASE (EC 3.4.23.-)	95-134								
PWEET_HUMAN	WEEL-LIKE PROTEIN KINASE (EC 2.7.1.12)	354-388								
PWT1_HUMAN	WILMS' TUMOR PROTEIN (WT33)	247-274								
PXBPF_HUMAN	X BOX BINDING PROTEIN-1 (XBP-1) (TREBS PROTEIN)	97-135								
PXPAC_HUMAN	DNA-REPAIR PROTEIN COMPLEMENTING XP-A CELLS (XERODERMA PIGMENTOSUM)	180-211								
PXPCC_HUMAN	DNA-REPAIR PROTEIN COMPLEMENTING XP-C CELLS (XERODERMA PIGMENTOSUM)	134-168	701-728							

PCGENE	107178.4 Motif Search on All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN									
PXPDC_HUMAN	DNA-REPAIR PROTEIN COMPLEMENTING XP-D CELLS (XERODERMA PIGMENTOSUM)	264-291								
PXPCC_HUMAN	DNA-REPAIR PROTEIN COMPLEMENTING XP-G CELLS (XERODERMA PIGMENTOSUM)	81-110	715-766	1047-1081						
PXRCC_HUMAN	DNA-REPAIR PROTEIN XRCC1	21-57								
PZNI0_HUMAN	ZINC FINGER PROTEIN 10 (ZINC FINGER PROTEIN KOX1) (FRAGMENT)	29-56								
PZNI0_HUMAN	ZINC FINGER PROTEIN 40 (HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 ENHANCER)	17-62	307-314	1071-1098	1469-1500	2013-2057	2146-2180			
PZNA5_HUMAN	ZINC FINGER PROTEIN 43 (BRCA1/44) (FRAGMENT)	1-30	201-228							
PZNA6_HUMAN	ZINC FINGER PROTEIN 46 (ZINC FINGER PROTEIN KUP)	121-149								

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TABLE X

Search Results Summary for PCTLZIP,
P1CTLZIP, and P2CTLZIP Motifs

PCTLZIP	P1CTLZIP	P2CTLZIP
LIBRARY FILE	LIBRARY FILE	LIBRARY FILE
PENV FOAMV 481-486	PENV BIV08 434-450	PENV BIV08 525-542
PENV HV1MA 438-453	PENV BIV27 463-478	PENV BIV27 564-571
PENV HV1MP 183-188	PENV FOAMV 481-486	PENV FENV1 30-47
PENV HV1RH 445-460	PENV HV1KB 752-768	PENV FLVPE 781-788
PENV HV18C 188-201	PENV HV1MA 437-453	PENV FV8D 779-786
PENV HV122 123-138	PENV HV1MP 183-198	PENV FV72 780-787
PENV HV12H 439-453	PENV HV1RH 444-460	PENV FLVC6 38-55
PENV HV2BE 750-765	PENV HV181 738-754	PENV FLVGL 605-622
PENV HV2D1 741-756	PENV HV18C 189-201	PENV FLVL8 625-642
PENV HV2G1 741-756	PENV HV122 123-138	PENV FLVBA 602-618
PENV HV2N2 742-757	PENV HV123 117-133	PENV FOAMV 710-727
PENV HV2RO 751-766	PENV HV12H 437-453	PENV F8VGA 625-642
PENV HV288 743-758	PENV HV2BE 750-765	PENV F8VGB 605-622
PENV HV28T 745-760	PENV HV2D1 741-756	PENV F8V8M 609-625
PENV J8RV 104-119	PENV HV2G1 741-756	PENV HV1OY 123-140
PENV MMTVB 618-633	PENV HV2N2 742-757	PENV HV122 410-427
PENV MMTVG 618-633	PENV HV2RO 751-766	PENV HV123 154-171
PENV 8VNMK 138-154	PENV HV288 743-758	PENV HV2CA 750-767
PENV 8VNL 138-154	PENV HV28T 745-760	PENV MCFF 600-617
PENMA CVBLY 381-406	PENV J8RV 104-119	PENV MCFE3 601-618
PENMA CVBM 381-406	PENV MCFF 387-413	PENV MLVAV 630-647
PENMA CVBO 381-406	PENV MCFE3 387-413	PENV MLVCB 625-642
PENMA CVHOC 381-406	PENV MLVAV 427-443	PENV MLVF5 639-656
PENMA CVMA5 402-417	PENV MLVCB 422-438	PENV MLVFF 639-656
PENMA CVMS 403-418	PENV MLVHO 423-438	PENV MLVFP 639-656
PENMA INBAA 285-310	PENV MLVMO 428-442	PENV MLVHO 620-643
PENMA INBBE 303-318	PENV MLVRD 424-440	PENV MLVKI 167-184
PENMA INBBO 283-308	PENV MLVRK 424-440	PENV MLVMO 628-646
PENMA INBEN 301-316	PENV MMTVB 618-633	PENV MLVRD 624-641
PENMA INBFJ 289-301	PENV MMTVG 618-633	PENV MLVRK 624-641
PENMA INBL 289-311	PENV 8FV1 684-890	PENV MSVFB 170-197
PENMA INBK 283-308	PENV 8FV3L 861-877	PENV RMCEV 603-620
PENMA INBIB 289-303	PENV 8VGB 93-108	PENV 8FV1 710-727
PENMA INBID 289-314	PENV 8VGMK 139-154	PENV 8FV3L 707-724
PENMA INBLE 302-317	PENV 8VML 139-154	PENV 8VMI 766-783
PENMA INBMD 292-307	PENV 8V84 808-822	PENV 8VGMK 766-782
PENMA INBME 298-311	PENV 8V8P 810-826	PENV 8VML 764-781
PENMA INBNA 289-303	PENMA CDOVO 36-52	PENV 8V84 789-786
PENMA INBOR 301-316	PENMA CVBLY 391-406	PENV 8V8P 773-780
PENMA INBSJ 289-313	PENMA CVBM 381-406	PENV 8MRVH 536-553
PENMA INBUS 284-308	PENMA CVBO 381-406	PENV 8MSAV 42-58
PENMA INBVI 289-311	PENMA CVHOC 381-406	PENMA CDOVO 36-53
PENMA INBVK 303-318	PENMA CVMA5 402-417	PENMA CVBLY 381-408
PENMA INBYB 289-301	PENMA CVMS 403-418	PENMA CVBM 381-408
	PENMA IAAIC 237-253	PENMA CVBO 381-408

PHEMA MUMPM	133-148	PHEMA IABAN	221-237	PHEMA CVHOC	391-408
PHEMA MUMPR	133-148	PHEMA IABUD	234-260	PHEMA IAAIC	322-338
PHEMA MUMPS	133-148	PHEMA IACKA	234-260	PHEMA IABAN	308-323
PHEMA P11HW	345-360	PHEMA IACKG	231-247	PHEMA IABUD	320-337
PHEMA P12H	65-80	PHEMA IACKV	230-246	PHEMA IACKA	320-337
PHEMA P12HT	66-80	PHEMA IADA1	234-260	PHEMA IACKG	316-333
PHEMA RINDK	368-383	PHEMA IADA3	237-263	PHEMA IACKP	302-318
PHEMA SVS	7-94	PHEMA IADCC	234-260	PHEMA IACKQ	302-318
PHEMA SVSCM	7-94	PHEMA IADH1	221-237	PHEMA IACK8	318-338
PHEMA SVSCP	7-94	PHEMA IADH2	221-237	PHEMA IACKV	315-332
PHEMA SVSLN	7-94	PHEMA IADH3	221-237	PHEMA IADA1	320-337
PVENY DHV11	42-67	PHEMA IADH4	221-237	PHEMA IADA3	322-338
PVFP7 CAPVK	99-104	PHEMA IADH6	221-237	PHEMA IADCC	320-337
PVFS8 VACC8	72-87	PHEMA IADH8	221-237	PHEMA IADH1	308-323
PVG01 BPP22	242-267	PHEMA IADH7	221-237	PHEMA IADH2	308-323
PVG01 H8VEB	169-184	PHEMA IADM2	237-263	PHEMA IADH3	308-323
PVG01 H8V11	210-225	PHEMA IADNZ	234-260	PHEMA IADH4	308-323
PVG06 BPT4	184-198	PHEMA IAE6	221-237	PHEMA IADH8	308-323
PVG07 BPT4	886-900	PHEMA IAE7	237-263	PHEMA IADH7	308-323
PVG08 H8V11	134-149	PHEMA IAFPR	230-246	PHEMA IADM2	322-338
PVG10 BPPH2	183-198	PHEMA IAHAL	236-262	PHEMA IADNZ	320-337
PVG10 BPPZA	183-198	PHEMA IAHAR	236-261	PHEMA IADU3	322-338
PVG10 H8V8A	109-124	PHEMA IAH8	230-246	PHEMA IAE6	308-323
PVG16 BPP1	81-98	PHEMA IAHG7	230-246	PHEMA IAE7	322-338
PVG18 BPT4	468-483	PHEMA IAHCD	230-246	PHEMA IAFPR	316-332
PVG25 BPT4	87-112	PHEMA IAHDE	230-246	PHEMA IAGRE	320-337
PVG28 H8V11	20-36	PHEMA IAHFO	236-262	PHEMA IAGU2	320-337
PVG30 BPPH8	11-84	PHEMA IAHK6	236-262	PHEMA IAGUA	318-336
PVG38 BPOX2	22-37	PHEMA IAHK7	236-262	PHEMA IAHAL	321-338
PVG38 H8V8A	109-123	PHEMA IAHLE	230-246	PHEMA IAHG8	315-332
PVG37 BPT2	1253-1268	PHEMA IAHLO	230-246	PHEMA IAHG7	315-332
PVG37 H8V11	284-289	PHEMA IAHMI	236-262	PHEMA IAHCD	315-332
PVG85 H8V11	22-37	PHEMA IAHNM	230-262	PHEMA IAHDE	315-332
PVG86 H8V11	288-293	PHEMA IAHRO	236-262	PHEMA IAHFO	321-338
PVG88 H8V11	102-117	PHEMA IAH8A	236-262	PHEMA IAHK8	321-338
PVG89 H8V11	267-282	PHEMA IAH8P	230-246	PHEMA IAHK7	321-338
PVG88 H8V11	518-533	PHEMA IAH8W	230-246	PHEMA IAHLE	315-332
PVG8 BPPH2	234-248	PHEMA IAHTE	236-262	PHEMA IAHLO	315-332
PVG8 BPPZA	234-248	PHEMA IAHTO	236-262	PHEMA IAHMI	321-338
PVG8 BPV1R	67-72	PHEMA IAHUR	236-262	PHEMA IAHNM	321-338
PVGF BPPHX	234-248	PHEMA IAKIE	236-261	PHEMA IAHNN	815-332
PVGL2 CVBF	264-278	PHEMA IALEN	236-261	PHEMA IAHPR	315-332
PVGL2 CVBL9	264-278	PHEMA IALMAA	233-248	PHEMA IAHRO	321-338
PVGL2 CVBLY	264-278	PHEMA IAMAB	238-264	PHEMA IAH8A	321-338
PVGL2 CYBM	264-278	PHEMA IAMAO	237-263	PHEMA IAH8P	315-332
PVGL2 CVBQ	264-278	PHEMA IAME1	237-263	PHEMA IAH8W	315-332
PVGL2 CVBV	264-278	PHEMA IAME2	237-263	PHEMA IAHTE	321-338

PVQL2 CVPF9	442-467		PHEMA IAME0	221-237			PHEMA IAHTO	321-338
PVQL2 CVPFU	440-456	504-519	PHEMA IAMIN	95-101	231-247		PHEMA IAHUR	321-338
PVQL2 CVPF8	218-233		PHEMA IANT0	237-253			PHEMA IAJAP	317-334
PVQL2 CVPFM	218-233		PHEMA IANT7	221-237			PHEMA IAMAA	318-336
PVQL2 IBV6	1056-1071		PHEMA IARUD	234-250			PHEMA IAMAB	324-341
PVQL2 IBV8	1056-1070		PHEMA IAS22	234-250			PHEMA IAMAO	322-338
PVQL2 IBVD2	1056-1071		PHEMA IASH2	234-250			PHEMA IAME1	322-338
PVQL2 IBVK	1056-1070		PHEMA IASTA	230-246			PHEMA IAME2	322-338
PVQL2 IBVM	1056-1070		PHEMA IATAI	235-251			PHEMA IAME6	308-323
PVQL8 H8V8A	701-716		PHEMA IATKM	234-250			PHEMA IAMIN	318-333
PVQL8 PRVIF	203-218		PHEMA IATKO	233-249			PHEMA IANT8	322-338
PVQLC H8VBC	475-480		PHEMA IATKR	230-246			PHEMA IAPIL	320-337
PVQLC H8VE4	444-459		PHEMA IATKW	228-245			PHEMA IAU7	308-323
PVQLC H8VE8	427-442		PHEMA IAU00	237-253			PHEMA IAS22	320-337
PVQLC PRVIF	449-461		PHEMA IAU89	235-251			PHEMA IAS22	320-337
PVQLD H8V11	78-84		PHEMA IAU17	238-254			PHEMA IAS22	321-338
PVQLD H8V2	78-84		PHEMA IAXIA	235-251			PHEMA IAS22	316-332
PVQLF H8V8A	285-280		PHEMA IAZCO	237-253			PHEMA IATKM	320-337
PVQLF H8V8C	285-280		PHEMA IAZH2	221-237			PHEMA IAU00	322-338
PVQLF H8V8R	285-280		PHEMA IAZH3	221-237			PHEMA IAV17	323-340
PVQLF H8V1	285-280		PHEMA IAZUK	237-253			PHEMA IAZCO	322-338
PVQLF H8V8A	285-280		PHEMA INBAA	118-131	285-310		PHEMA IAZH2	308-323
PVQLF H8V1	285-280		PHEMA INB8E	123-138	303-318		PHEMA IAZH3	308-323
PVQLF H8V8R	285-280		PHEMA INB8O	118-132	283-308		PHEMA IAZUK	322-338
PVQLF MUMPS	8-84		PHEMA INBEN	123-138	301-316		PHEMA MUMPM	101-118
PVGLI VZVD	278-283		PHEMA INBFU	108-124	288-301		PHEMA MUMPR	101-118
PVGLM HANTB	800-915		PHEMA INBGL	118-136	288-311		PHEMA NDVA	93-110
PVGLM PTPV	743-758		PHEMA INBHK	118-132	283-308		PHEMA NDVB	93-110
PVGLM SEOUR	901-916		PHEMA INBIB	108-124	288-303		PHEMA NDVD	93-110
PVGLM SEOUS	900-915		PHEMA INBID	120-136	288-314		PHEMA NDVH	93-110
PVGLY LA88G	428-441		PHEMA INBLE	123-138	302-317		PHEMA NDVI	93-110
PVGLY LA88J	427-442		PHEMA INBMD	113-128	282-307		PHEMA NDVM	93-110
PVGLY MOPEI	425-440		PHEMA INBME	118-132	288-311		PHEMA NDVQ	93-110
PVM3 REOVD	521-538		PHEMA INBNA	108-124	288-303		PHEMA NDVTG	93-110
PVM8A H8BQ8	380-395		PHEMA INBOR	123-138	301-316		PHEMA NDVU	93-110
PVM8A H8BV8	187-202		PHEMA INB81	123-138	301-316		PHEMA PHODV	36-53
PVM8A WHV1	378-383		PHEMA INB9J	118-136	288-313		PHEMA PI1HW	486-503
PVM8A WHV68	383-388		PHEMA INB88	118-132	284-308		PHEMA PI38	111-128
PVM8A WHV7	383-388		PHEMA INBVI	118-132	288-311		PHEMA PI3H4	111-128
PVM8A WHV8	383-388		PHEMA INBVK	123-138	303-318		PHEMA PI3HA	111-128
PVM8A WHV8I	383-388		PHEMA INBYB	108-124	288-301		PHEMA PI3HT	111-128
PVM8A WHVW6	234-249		PHEMA INBYP	133-148			PHEMA PI3HU	111-128
PVMT2 IANIN	28-40		PHEMA MUMPM	133-148			PHEMA PI3HV	111-128
PVMT2 IABAN	25-40		PHEMA MUMPR	133-148			PHEMA PI3HW	111-128
PVMT2 IAFOW	28-40		PHEMA MUMPS	133-148			PHEMA PI3HX	111-128
PVMT2 IASPR	28-40		PHEMA PI1HW	486-503			PHEMA PI4HA	50-67
PVMT2 IAPFW	28-40		PHEMA PI2H	65-81				

PVMT2 IALE1	25-40	PHEMA P13B	324-340			PHEMA 8V41	85-102	
PVMT2 IALE2	25-40	PHEMA P13H4	324-340			PHEMA 8V5	84-101	
PVMT2 IAMAN	25-40	PHEMA P13HA	324-340			PHEMA 8V6CM	84-101	
PVMT2 IAPUE	25-40	PHEMA P13HT	324-340			PHEMA 8V6CP	84-101	
PVMT2 IA8IN	25-40	PHEMA P13HU	324-340			PHEMA 8V6LN	84-101	
PVMT2 IA8DO	25-40	PHEMA P13HV	324-340			PVFO8 VACCC	280-297	
PVMT2 IAWIL	25-40	PHEMA P13HW	324-340			PVFO5 VACCP	280-297	
PVMT9 MYXVL	228-241	PHEMA P13HX	324-340			PVFO6 VACCV	281-298	
		PHEMA RINDK	308-383			PVFO8 VACCC	178-193	
		PHEMA 8V6	7-84			PVFO8 VACCV	176-183	
		PHEMA 8V6CM	7-84			PVG27 H8V8A	209-226	
		PHEMA 8V6CP	7-84			PVG28 H8V11	173-180	
		PHEMA 8V6LN	7-84			PVG39 H8V11	848-885	
		PVENV DRVT1	42-57			PVG43 H8V11	109-126	521-538
		PVENV EAV	26-41			PVG87 H8V11	171-188	
		PVFP2 FOWPV	88-104			PVG72 H8V11	1252-1289	
		PVFP7 CAPVK	88-104			PVGF1 IBVB	3073-3080	
		PVFS8 VACCB	72-87			PVGL2 IBV6	1084-1111	
		PVG01 H8VEB	169-184			PVGLB H8VE1	738-763	
		PVG01 H8V11	209-225	317-332		PVGLB H8VE4	676-692	
		PVG08 H8V11	134-149			PVGLB H8VEA	738-763	
		PVG10 H8V8A	108-124			PVGLB H8VEB	738-763	
		PVG11 H8V11	103-119			PVGLB H8VEL	738-763	
		PVG12 H8V11	270-286			PVGLB ILTV8	587-614	
		PVG1 8PV1R	76-92			PVGLB ILTV8	807-824	
		PVG29 H8V11	20-35			PVGLB ILTVT	807-824	
		PVG88 BPOX2	22-37			PVGLC PRVIF	180-197	
		PVG36 H8V8A	108-123			PVGLF VZVD	489-488	
		PVG37 H8V11	284-289			PVGLF 8V6	401-418	
		PVG41 H8V11	244-260			PVGLH HCMVA	385-382	
		PVG46 H8V11	1244-1260			PVGLH HCMVT	394-381	
		PVG55 H8V11	22-37	143-158		PVGLH H8V11	245-262	803-820
		PVG68 H8V11	208-283			PVGLH H8V1E	245-262	803-820
		PVG68 H8V11	101-117			PVGLI H8V11	43-60	
		PVG68 H8V9A	130-146	330-346		PVGLM BUNL7	81-88	
		PVG89 H8V11	287-282			PVGLM BUN8H	81-88	
		PVG85 H8V11	302-378	518-533		PVGLM PUUMH	712-729	
		PVG71 H8V8A	89-105			PVGLM PUUMB	712-729	
		PVG8 BPPH2	234-249			PVGLM RVFV	344-361	
		PVG8 BPPZA	234-246			PVGLM RVFVZ	344-361	
		PVG8 8PV1R	57-72			PVGLY LA98G	12-94	
		PVGF1 IBVB	2210-2228			PVGLY LA88J	12-94	
		PVGL2 CVBF	123-138	174-180	204-279	PVGLY LYCVA	12-94	
		PVGL2 CVBL9	123-139	174-180	264-279	PVGLY LYCVW	12-94	
		PVGL2 CVBLY	123-139	174-180	284-279	PVGLY MOPEI	12-94	
		PVGL2 CVBM	123-139	174-180	284-279	PVM1 REOVD	280-287	
		PVGL2 CVBQ	31-47	123-139	174-180	PVM1 REOVL	280-297	

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TABLE XI

Search Results Summary for P3CTLZIP, P4CTLZIP,
P5CTLZIP, and P6CTLZIP Motifs

PVMO1_VACCV	83-101	128-144	PVGL2_CVMA4	988-1018	PVENV_THQGV	358-378	PHEMA_P12H	13-34
PVM1_REOVL	227-245		PVGL2_CVMA5	847-868	PVG01_VACCC	288-318	PHEMA_P12HT	13-34
PVM1_REOVL	227-245		PVGL2_CVMAJH	858-877	PVG01_VACCV	237-257	PHEMA_8V5	7-28
PVMAT_HRSVA	44-82		PVGL2_CVFF8	64-83	PVG01_VARV	288-318	PHEMA_8V5CM	7-28
PVMAT_NDVA	180-208		PVGL2_CVPPU	64-83	PVG08_VACCC	31-51	PHEMA_8V6CP	7-28
PVMAT_NDVB	180-208		PVGL2_CVPR8	814-833	PVG08_VARV	31-51	PHEMA_8V6LN	7-28
PVMP_CAMVC	183-201		PVGL2_CVPRM	814-833	PVG08_BPPF1	25-45	PVG01_HSV5B	168-180
PVMP_CAMVD	183-201		PVGL2_FIV	1041-1080	PVG12_HSV11	151-171	PVG01_HSV11	588-610
PVMP_CAMVE	183-201		PVGL2_IBV8	588-607	PVG22_HSV11	300-320	PVG23_HSV11	314-335
PVMP_CAMVN	183-201		PVGL2_IBVB	587-608	PVG38_HSV11	648-668	PVG37_BPOX2	85-88
PVMP_CAMV8	183-201		PVGL2_IBVD2	588-607	PVG51_HSV11	28-49	PVG43_HSV11	157-178
PVMP_CAMVW	183-201		PVGL2_IBVK	587-608	PVG83_HSV11	338-358	PVG55_HSV11	288-309
PVMP_FMVD	180-188		PVGL2_IBVM	587-608	PVG85_HSV11	117-137	PVG65_HSV8A	85-108
			PVGL8_HCMVA	708-726	PVG74_HSV8A	124-144	PVG58_HSV11	1155-1178
			PVGL8_HCMVT	707-728	PVGL2_IBV8	328-348	PVG58_HSV8A	288-287
			PVGL8_HSV8U	117-138	PVGL2_IBVB	327-347	PVG60_HSV11	30-51
			PVGL8_ILTV8	268-275	PVGL2_IBVD2	328-348	PVG63_HSV11	238-258
			PVGL8_ILTVS	268-285	PVGL2_IBVD3	328-348	PVG01_IBVB	185-187
			PVGL8_ILTVT	268-285	PVGL2_IBVK	327-347	PVG83_HCMVA	167-178
			PVGLC_HSV11	3-84	PVGL2_IBVM	327-347	PVGL2_CVBF	1259-1280
			PVGLC_HSV1K	3-84	PVGL2_IBYU2	310-330	PVGL2_CVBL8	1259-1280
			PVGLC_HSVBC	475-484	PVGL8_EBV	732-752	PVGL2_CVBL9	1259-1280
			PVGLQ_CHAV	438-455	PVGL8_HCMVA	760-770	PVGL2_CVBL9	1259-1280
			PVGLQ_RABVH	372-381	PVGL8_HCMVT	761-771	PVGL2_CVBM	1259-1280
			PVGLI_HSV8B	44-83	PVGL8_HSV23	78-89	PVGL2_CVBQ	1259-1280
			PVGLI_VZVD	278-287	PVGL8_HSV28	78-89	PVGL2_CVBV	1259-1280
			PVGLM_BUNGE	117-138	PVGL8_HSV28	66-85	PVGL2_CVMA5	1286-1288
			PVGLM_PHV	152-171	PVGL8_HSV8U	72-82	PVGL2_CVMAJH	1178-1197
			PVGLM_PTPV	987-1018	PVGL8_HSV82	278-289	PVGL8_HSV11	83-104
			PVGLM_PUUMH	155-174	PVGL8_HSV8A	63-83	PVGL8_HSV1F	82-103
			PVGLM_PUUMS	155-174	PVGL8_MCMV8	738-758	PVGL8_HSV1K	82-103
			PVGLM_RVFF	830-848	PVGLF_P13H4	283-303	PVGL8_HSV1P	83-104
			PVGLM_RVFFZ	830-848	PVGLF_RABVE	454-474	PVGL8_MCMV9	135-158
			PVGLM_UUK	855-874	PVGLG_RABVH	454-474	PVGLC_PRVIF	448-467
			PVGLY_LYCVW	98-108	PVGLG_RABVP	454-474	PVGLF_CDVO	338-357
			PVGNB_CPMV	1185-1184	PVGLG_RABV8	454-474	PVGLF_MEASE	224-245
			PVM3_REOVD	521-540	PVGLG_RABVT	454-474	PVGLF_MEAS1	227-248
			PVME1_CVBM	171-180	PVGLH_MCMV8	670-680	PVGLF_MEASY	224-245
			PVME1_CVH22	136-155	PVGLM_BUNL7	1325-1345	PVGLF_MUMPM	448-467
			PVME1_CVFF8	174-193	PVGLM_BUNSH	1325-1345	PVGLF_MUMPR	448-467
			PVME1_CVPPU	174-193	PVGLM_BUNYW	988-1018	PVGLF_MUMPS	448-467
			PVME1_CVPRM	174-193	PVGLM_HANTB	988-1018	PVGLF_PHODV	305-328
			PVME1_CVTKE	171-180	PVGLM_HANTH	1000-1020	PVGLF_P11HC	458-477
					PVGLM_HANTL	1001-1021	PVGLF_P12H	450-471
					PVGLM_HANTV	1001-1021	PVGLF_P12HG	450-471
					PVGLM_RVFFZ	1158-1178	PVGLF_P12HT	450-471
					PVGLM_SEOUR	1000-1020	PVGLF_P13B	453-474

					PVGLM SEOUS	989-1019	PVGLF PI3H4	453-474	
					PVGLM UUK	925-945	PVGLF RINDK	220-241	
					PVGLY LYCYA	12-32	PVGLF RINDL	220-241	
					PVGLY LYCVW	12-32	PVGLF SEND5	460-481	
					PVGLY PIARV	12-32	PVGLF SENDF	460-481	
					PVGNB CPMV	141-161	PVGLF SENDH	460-481	
					PVMAT MUMPS	310-330	PVGLF 8ENDJ	460-481	
					PVMAT NDVA	309-329	PVGLF SENDZ	460-481	
					PVMAT NDVB	309-329	PVGLF SV41	463-474	
					PVMAT PI2HT	308-328	PVGLF 8V5	448-487	
					PVMAT PI4HA	312-332	PVGLH HCMVA	881-712	
					PVMAT PI4HB	312-332	PVGLH HCMVT	880-711	
					PVMAT SV41	308-328	PVGLH H8VE4	304-325	
					PVMAT SV5	308-328	PVGLH H8VEB	287-318	
					PVMEI IBV8	74-84	PVGLH H8V8A	658-679	
					PVMEI IBV8	74-84	PVGLI H8V2	2-23	
					PVMEI IBV82	74-84	PVGLI H8V23	2-23	
					PVMEI IBVK	74-84	PVGLM BUNGE	187-218	
					PVMSA HPBDB	201-221	PVGLM BUNL7	180-211	
					PVMSA HPBGS	209-229	PVGLM BUNSH	180-211	
					PVMSA HPBHE	283-313	PVGLM BUNYW	183-214	
					PVMSA WHV1	207-227	PVGLY LA86G	237-258	
					PVMSA WHV59	212-232	PVGLY LA86J	238-259	
					PVMSA WHV7	212-232	PVGP8 EBV	87-88	
					PVMSA WHV8	212-232	PVM01 VACCC	281-302	
					PVMSA WHV81	212-232	PVM01 VACCV	230-251	
					PVMSA WHVW6	63-83	PVMAT HRSVA	189-180	
							PVMAT RINDK	200-221	239-280
							PVMAT TRTV	122-143	
							PVME1 CVHOC	84-85	
							PVMSA HPBDB	201-222	
							PVMSA HPBVO	70-91	
							PVMSA HPBV2	244-265	
							PVMSA HPBV4	244-265	
							PVMSA HPBV8	244-265	
							PVMSA HPBVA	233-254	
							PVMSA HPBVD	70-91	
							PVMSA HPBVI	233-254	
							PVMSA HPBVJ	233-254	
							PVMSA HPBVL	233-254	
							PVMSA HPBVN	70-91	
							PVMSA HPBVO	233-254	
							PVMSA HPBVP	244-265	
							PVMSA HPBVR	244-265	
							PVMSA HPBV8	70-91	
							PVMSA HPBVW	233-254	
							PVMSA HPBVY	233-254	

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TABLE XII

Search Results Summary for P7CTLZIP,
P8CTLZIP, and P9CTLZIP Motifs

P7CTLZIP		P8CTLZIP		P9CTLZIP			
LIBRARY FILE		LIBRARY FILE		LIBRARY FILE			
PENV BAEVM	202-224	PENV1 FR5FV	380-403	PENV BLVAF	303-327		
PENV HV1B1	488-620	PENV2 FR5FV	300-403	PENV BLVAU	303-327		
PENV HV1B8	483-616	PENV BRV08	178-201	PENV BLVAV	303-327		
PENV HV1B9	484-616	PENV BIV27	207-230	PENV BLVB2	303-327		
PENV HV1BR	603-626	PENV FOAMV	804-887	PENV BLVB5	303-327		
PENV HV1EL	486-617	PENV HV123	175-188	PENV BLVJ	303-327		
PENV HV1H2	488-620	PENV HV2BE	3-28	PENV FIVPE	781-805		
PENV HV1H3	488-620	PENV HV2CA	760-773	PENV FIVSD	779-803		
PENV HV1J3	610-632	PENV HV2D1	3-28	PENV FIVT2	780-804		
PENV HV1JR	480-612	PENV HV2G1	772-785	PHEMA CVBLY	391-415		
PENV HV1K8	604-628	PENV HV2N2	777-800	PHEMA CVBM	391-415		
PENV HV1MA	600-622	PENV JSRV	641-664	PHEMA CVBQ	391-415		
PENV HV1MF	488-618	PENV SFV1	804-887	PHEMA CVHOC	391-415		
PENV HV1ND	488-610	PENV SFV3L	881-884	PHEMA INCCA	442-466		
PENV HV1PV	488-620	PENV SIVM1	803-828	PHEMA INCEN	430-454		
PENV HV1P1	488-611	PENV SIVM6	802-825	PHEMA INCGL	430-454		
PENV HV122	123-146	PENV SIVML	801-824	PHEMA INCYH	428-453		
PENV HV126	487-619	PENV SIVS4	806-828	PHEMA INCJH	443-467		
PENV HV128	606-627	PENV SIV9P	810-833	PHEMA INCKY	429-453		
PENV HV12H	488-620	PHEMA CDVO	200-223	PHEMA INCM1	428-453		
PENV MPNV	378-398	PHEMA PI2H	66-88	PHEMA INCNA	428-453		
PENV MPNV	213-235	PHEMA PI2HT	66-88	PHEMA INCP1	430-454		
PENV MPNV	213-235	PVF11 VACCC	181-184	PHEMA INCP2	430-454		
PHEMA IALC	37-58	PVF15 VACCC	26-48	PHEMA INCP3	430-454		
PHEMA IABAN	21-43	PVF16 VACCP	3-28	PHEMA INCTA	430-454		
PHEMA IAD3	37-58	PVG11 AMEPV	313-338	PHEMA INCTA	430-454		
PHEMA IADH2	21-43	PVG28 HSV11	481-514	PHEMA MUMPM	101-126		
PHEMA IADH3	21-43	PVG43 HSV11	322-346	PHEMA MUMPR	101-126		
PHEMA IADH4	21-43	PVG62 HSV11	228-262	PHEMA MUMPS	101-126		
PHEMA IADH5	21-43	PVG87 HSV11	722-746	PHEMA PI1HW	28-63		
PHEMA IADH6	21-43	PVGL2 CVBF	10-33	PENV BEV	82-88		
PHEMA IADH7	21-43	PVGL2 CVBL9	661-874	PVF05 VACCC	280-304		
PHEMA IADH2	37-58	PVGL2 CVBLY	10-33	PVF05 VACCP	280-304		
PHEMA IADMA	28-60	PVGL2 CVM4	1267-1280	PVF05 VACCV	281-305		
PHEMA IADU3	37-58	PVGL2 CVM46	1216-1238	PVF00 VACCC	178-200		
PHEMA IAE6	21-43	PVGL2 CVMJH	1128-1149	PVF08 VACCV	178-200		
PHEMA IAE7	37-58	PVGL2 CVPF6	1274-1207	PVG01 VZVD	68-82		
PHEMA IAAO	37-58	PVGL2 CVPPU	1272-1285	PVG10 H8V8A	355-378		
PHEMA IAME1	37-58	PVGL2 CVPR8	1050-1073	PVG12 H8V9A	68-92		
PHEMA IAME2	37-58	PVGL2 CVPRM	1050-1073	PVG19 H8V11	88-112		
PHEMA IAME6	21-43	PVGL2 FIV	1277-1300	PVG28 H8V11	173-187		
PHEMA IANT6	37-58	PVGL2 IBV6	186-218	PVG43 H8V11	108-133		
PHEMA IANU7	21-43	PVGL2 IBV8	186-218	PVG87 H8V11	108-132	1006-1028	
PHEMA IATKM	33-66	PVGL2 IBV02	186-218	PVG72 H8V11	720-744		
PHEMA IAU0	37-58	PVGL2 IBV03	186-218	PVGf1 IBVB	3601-3626		

PHEMA IAVI7	38-60		PVGL2 IBVK	185-218		PVQL8 HSMVD	589-613		
PHEMA IAX31	37-58		PVGL2 IBVM	185-218		PVQLB ILTV8	597-621		
PHEMA IAZOO	37-58		PVGL2 IBVU1	178-201		PVQLB ILTV9	607-631		
PHEMA IAZH2	21-43		PVGL2 IBVU2	178-201		PVQLB ILTVT	607-631		
PHEMA IAZH3	21-43		PVGL2 IBVU3	178-201		PVGLB HSMV11	413-437		
PHEMA IAZUK	37-58		PVGLB HCMVA	535-558		PVGLB VZVD	489-493		
PHEMA PHODV	38-58		PVGLB HCMVT	535-558		PVGLF SV6	401-425		
PHEMA PIZH	65-87		PVGLB HSMVA	483-506		PVGLH HCMVA	574-588		
PHEMA PIZHT	65-87		PVGLB HCMV8	500-588		PVGLH HCMVT	573-587		
PVPF7 CAPVK	89-111		PVGLC HSMV11	487-480		PVGLH HSMV11	443-467	803-827	
PVFL8 VACC8	72-84		PVGLC HSMV1K	487-480		PVGLH HSMVIE	443-487	803-827	
PVG01 HSMV1	317-338		PVGLC HSMV2	435-458		PVGLM BUNL7	31-55		
PVG03 VACC8	50-72		PVGLC HSMV23	435-458		PVGLM BUNSH	31-55		
PVG03 VARV	50-72		PVGLM BUNL7	1387-1410		PVGLM HANTH	684-718		
PVG04 VACC8	11-33		PVGLM BUNSH	1387-1410		PVGLM RVFV	344-388		
PVG04 VARV	11-33		PVGLM UUK	865-888		PVGLM RVFVZ	344-388		
PVG18 HSMV1	88-110		PVGLY JUNIN	12-35		PVGLM UUK	561-585		
PVG28 HSMV1	173-185		PVGLY LAS8Q	12-35		PVGNM CPMV	311-335		
PVG46 HSMV1	20-42		PVGLY LAS8J	12-35		PVGP2 EBV	657-681		
PVG48 HSMV8A	134-158		PVGLY LCVYA	12-35		PVGP3 EBV	854-878		
PVG58 HSMV8A	71-83		PVGLY LCVVW	12-35		PVM1 REOVD	280-304		
PVG58 HSMV8A	266-288		PVGLY MOPEI	12-35		PVM1 REOVL	280-304		
PVG58 HSMV1	267-288		PVGLY TACV	12-35		PVM21 REOVD	168-192		
PVG58 HSMV1	42-64		PVGLY TACV6	12-35		PVM22 REOVD	168-192		
PVG58 HSMV1	53-75		PVGLY TACV7	12-35		PVM2 REOVJ	168-192		
PVG58 HSMV1	1347-1389		PVGLY TACVT	12-35		PVM2 REOVL	168-192		
PVG58 HSMV1	60-82		PVGNM CPMV	741-764		PVMAT MEAS1	87-111		
PVGL2 IBV8	1058-1078		PVM1 REOVD	324-347	454-477	PVMAT 8SPVB	314-338		
PVGL2 IBV8	1058-1077		PVM1 REOVL	454-477		PVME1 CVBM	137-161		
PVGL2 IBVD2	1058-1078		PVMAT MUMP8	227-250		PVME1 CVHOC	137-161		
PVGL2 IBVK	1058-1077		PVMSA HPBDB	268-282		PVME1 CVTKE	137-161		
PVGL2 IBVM	1058-1077		PVMSA HPBDC	268-281		PVME1 IBV8	74-98		
PVGLB HSMV8U	117-138		PVMSA HPBDU	231-254		PVME1 IBVB	74-98		
PVGLB HSMV82	745-767		PVMSA HPBDW	268-282		PVME1 IBV2	74-98		
PVGLC HSMVB	388-421		PVMSA HPBHE	238-259		PVME1 IBVK	74-98		
PVGLC HSMVMQ	388-420					PVMSA HPBGB	271-285		
PVGLC HSMVMM	388-421					PVMSA WHV1	200-283		
PVGLF 8R8VA	205-287	482-504				PVMSA WHV68	274-288		
PVGLF 8R8VC	484-508					PVMSA WHV7	274-288		
PVGLF 8R8VR	484-508					PVMSA WHV8	274-288		
PVGLF HR8V1	484-508					PVMSA WHV81	274-288		
PVGLF HR8VA	484-508					PVMSA WHVW8	125-148		
PVGLF HR8VL	484-508								
PVGLF HR8VR	484-508								
PVGLF TRTV	452-474								
PVGLG IHNV	77-98								
PVGLG VHSV0	408-428								

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TABLE XIII

SEARCH RESULTS SUMMARY FOR P12LZIPC MOTIF

PCGENE	P12CTLZIP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PCOAT_FCV9	COAT PROTEIN	FELINE CALCIVIRUS (STRAIN F9)	567-590	643-660							
PCOAT_FPV	COAT PROTEIN VP1	FELINE PANLEUKOPENIA VIRUS	690-705								
PCOAT_FPV19	COAT PROTEIN VP1	FELINE PANLEUKOPENIA VIRUS (STRAIN 193)	690-705								
PCOAT_HEVS	COAT PROTEIN	HELENINUM VIRUS S	47-56								
PCOAT_MEVA	COAT PROTEIN VP1	MINK ENTERITIS VIRUS (STRAIN ABASHIRI)	685-700								
PCOAT_MNSV	COAT PROTEIN	MELON NECROTIC SPOT VIRUS	37-53								
PCOAT_MSTV	COAT PROTEIN	MAIZE STRIPE VIRUS	176-197	204-227							
PCOAT_NMV	COAT PROTEIN	NARCISSUS MOSAIC VIRUS	67-86								
PCOAT_NODAV	COAT PROTEIN PRECURSOR	NODAMURA VIRUS	379-394								
PCOAT_ORSV	COAT PROTEIN	ODONTOGLOSSUM RINGSPOOT VIRUS	104-130								
PCOAT_OTMV	COAT PROTEIN	ONONIS YELLOW MOSAIC VIRUS	35-52								
PCOAT_PAVC1	COAT PROTEIN VP2	CANINE PARVOVIRUS (TYPE 2 / STRAIN A72)	547-562								
PCOAT_PAVC3	COAT PROTEIN VP1	CANINE PARVOVIRUS (STRAIN 780929)	685-700								
PCOAT_PAVC4	COAT PROTEIN VP1	CANINE PARVOVIRUS (STRAIN CIV-D CORNELL 320)	700-715								
PCOAT_PAVCN	COAT PROTEIN VP1	CANINE PARVOVIRUS (STRAIN N)	711-726								
PCOAT_PEMV	COAT PROTEIN PRECURSOR	PEPPER MOTTLE VIRUS	273-295								
PCOAT_PMV	COAT PROTEIN	PAPAYA MOSAIC POTEXVIRUS	85-103								
PCOAT_PPMVS	COAT PROTEIN	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN)	64-84	103-129							
PCOAT_PVSP	COAT PROTEIN	POTATO VIRUS S (STRAIN PERUVIAN)	129-147								
PCOAT_RSV	COAT PROTEIN	RICE STRIPE VIRUS	128-152								
PCOAT_SNLWM	COAT PROTEIN	SATELLITE MAIZE WHITE LINE MOSAIC VIRUS	51-67								
PCOAT_SMYEA	COAT PROTEIN	STRAWBERRY MILD YELLOW EDGE-ASSOCIATED VIRUS	57-72								
PCOAT_TAMV	GENOME POLYPROTEIN	TAMARILLO MOSAIC VIRUS	222-237								
PCOAT_TBSVB	COAT PROTEIN	TOMATO BUSHY STUNT VIRUS (STRAIN BS-1)	359-383								
PCOAT_TCV	COAT PROTEIN	TURNIP CRINKLE VIRUS	71-89								
PCOAT_TGMV	COAT PROTEIN	TOMATO GOLDEN MOSAIC VIRUS	154-177								
PCOAT_TMGMV	COAT PROTEIN	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U2)	102-128								
PCOAT_TMY	COAT PROTEIN	TOBACCO MOSAIC VIRUS (VULGARE)	102-128								
PCOAT_TMY06	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN 06)	102-128								
PCOAT_TMYD4	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN DAHLEMENSE)	102-128								
PCOAT_TMYER	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN ER)	102-128								
PCOAT_TMYHR	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN HOLMES RIBGRASS (HR))	102-128								
PCOAT_TMYO	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN O)	102-128								
PCOAT_TMYOM	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN OM)	102-128								
PCOAT_TMYTO	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN TOMATOL)	102-128								
PCOAT_TMYA	COAT PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN A)	119-142								
PCOAT_TMYD	COAT PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN D)	108-134								
PCOAT_TMYV	COAT PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN V)	71-96								
PCOAT_TMYV1	COLLAGEN-LIKE PROTEIN	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	79-100								
PCOAT_TMYV2	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADW2)	15-31								
PCOAT_TMYV3	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV4	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV5	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV6	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV7	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV8	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV9	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV10	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV11	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV12	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV13	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV14	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV15	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV16	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV17	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV18	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV19	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV20	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV21	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV22	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV23	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV24	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV25	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV26	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV27	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV28	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV29	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV30	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV31	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV32	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV33	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV34	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV35	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV36	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV37	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV38	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV39	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV40	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV41	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV42	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV43	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV44	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV45	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV46	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV47	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV48	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV49	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV50	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV51	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV52	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV53	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV54	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV55	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV56	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV57	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV58	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV59	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV60	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV61	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV62	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV63	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV64	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV65	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV66	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV67	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV68	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV69	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV70	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV71	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV72	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV73	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV74	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV75	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV76	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV77	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV78	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV79	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV80	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV81	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV82	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV83	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV84	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV85	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV86	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV87	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV88	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV89	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV90	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV91	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV92	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV93	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV94	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV95	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV96	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV97	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV98	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-100								
PCOAT_TMYV99	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYV)	79-								

PCGENE	PLICTLZIP	All Viruses (No Bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PDOL_CBEV	DNA POLYMERASE	CHLORISTONEURA BIENSI ENTOMOPHOX VIRUS	430-434	634-678	732-757						
PDOL_CHV2	DNA POLYMERASE	CHLORELLA VIRUS NY-2A	424-442								
PDOL_CHV7	DNA POLYMERASE	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	153-172	424-442							
PDOL_EBV	DNA POLYMERASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	334-374	438-463	524-542	667-687	973-990				
PDOL_FOPV	DNA POLYMERASE	FOWLPOX VIRUS	60-77	220-247							
PDOL_HCMVA	DNA POLYMERASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	589-587	945-960	1029-1053						
PDOL_HPBDB	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (BROWN SHANGHAI DUCK ISOLATE S5)	4-29	157-174	522-541	554-572					
PDOL_HPBDC	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (STRAIN CHINA)	4-29	157-174	521-540	553-571					
PDOL_HPBDD	DNA POLYMERASE	DUCK HEPATITIS B VIRUS	181-200	213-231							
PDOL_HPBDD	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE S31)	4-29	157-174	522-541	554-572					
PDOL_HPBGS	DNA POLYMERASE	GROUND SQUIRREL HEPATITIS VIRUS	448-475								
PDOL_HPBHE	DNA POLYMERASE	HERON HEPATITIS B VIRUS	4-29	554-572							
PDOL_HPBV2	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW2)	412-439	447-463	761-780						
PDOL_HPBV4	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW4)	410-417								
PDOL_HPBV9	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN 991)	412-439								
PDOL_HPBVA	DNA POLYMERASE	HEPATITIS B VIRUS (STRAIN ALPHA1)	80-96	399-426	434-450	750-767					
PDOL_HPBVI	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN INDONESIA/PIPDW420)	80-96	410-437	445-468	761-778					
PDOL_HPBVI	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN JAPAN/PIPDW233)	80-96	410-437	445-468	761-778					
PDOL_HPBVL	DNA POLYMERASE	HEPATITIS B VIRUS (STRAIN LSH / CHIMPANZEE ISOLATE)	80-96	399-426	434-457	750-767					
PDOL_HPBVM	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW / MUTANT)	80-96	410-437	760-777						
PDOL_HPBVO	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN OKINAWA/PODW282)	80-96	410-437	445-468	761-778					
PDOL_HPBVP	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN PHILIPPINO/PODW294)	412-439	447-463							
PDOL_HPBVR	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW)	80-96	410-437	761-778						
PDOL_HPBVW	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW)	82-98	405-432	440-456						
PDOL_HPBVY	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AYW)	80-96	399-426	434-457	750-767					
PDOL_HPBVZ	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADYW)	80-96	399-426	434-457						
PDOL_HSV11	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	797-817	877-897	1073-1090						
PDOL_HSV1A	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN ANGELOTTI)	797-817	877-897	1073-1090						
PDOL_HSV1K	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	797-817	877-897	1073-1090						
PDOL_HSV1S	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN SC16)	797-817	877-897	1073-1090						
PDOL_HSV21	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 186)	802-822	882-902	1078-1095						
PDOL_HSV6U	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	652-672	786-803	858-882						
PDOL_HSV6B	DNA POLYMERASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	283-299	377-392	454-477	798-818	878-898				
PDOL_HSV7	DNA POLYMERASE	ICTALURID HERPESVIRUS 1	257-275	397-418							
PDOL_HSV8A	DNA POLYMERASE	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	118-137	297-319	344-364	514-532	955-972				
PDOL_MGMVS	DNA POLYMERASE	AUTOGRAHA CALIFORNICA NUCLEAR POLYDROSIS VIRUS	303-322	535-553	780-802						
PDOL_NPVAC	DNA POLYMERASE	VARIOLA VIRUS	518-536	676-697							
PDOL_VAV	DNA POLYMERASE	VARIOLA VIRUS	421-437								
PDOL_VZVD	DNA POLYMERASE	VARIOLA-ZOSTER VIRUS (STRAIN DUMAS)	312-331	363-382	440-463	713-740	757-781	1006-1024			
PDOL_WHV1	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1	446-473								
PDOL_WHV59	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 59	451-478								
PDOL_WHV7	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 7	451-478								
PDOL_WHV8	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8	450-477	554-571							
PDOL_WHV81	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8	451-478								
PDOL_WHVW6	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS W64 (ISOLATE PW523)	123-150								
PDOL_WHVWY	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AYW)	399-426	434-450	750-767						
PDUT_HCMVA	DUTPASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	107-126								
PDUT_HSV6A	DUTPASE	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	130-154								
PDUT_HSV6B	DUTPASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	130-149								
PDUT_HSV7	DUTPASE	ICTALURID HERPESVIRUS 1	72-95								
PDUT_HSV8A	DUTPASE	HERPESVIRUS SAIMIRI (STRAIN 11)	22-45	79-104	168-183						
PE11_ADEM1	EARLY E1A 11 KD PROTEIN	MOUSE ADENOVIRUS TYPE 1	24-47								
PE1A6_ADE07	EARLY E1A 63 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	8-35								
PE1A_ADE04	EARLY E1A 28 KD PROTEIN	HUMAN ADENOVIRUS TYPE 4	104-120								
PE1A_ADE07	EARLY E1A 28 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	8-35								
PE1A_ADE07	EARLY E1A 28 KD PROTEIN	SMAN ADENOVIRUS TYPE 7	173-189	238-254							
PE1BL_ADE12	E1B PROTEIN, LARGE T-ANTIGEN	HUMAN ADENOVIRUS TYPE 12	451-467								

PCGENE	PICTLZIP	All Virus (No Bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PEIBL_ADEC2	E1B PROTEIN, LARGE T-ANTIGEN	CANINE ADENOVIRUS TYPE 2	101-122								
PEIBL_ADEC1	EARLY E1B 44 KD PROTEIN	TUPAIA ADENOVIRUS	75-101								
PEIBS_ADEC2	E1B PROTEIN, SMALL T-ANTIGEN	CANINE ADENOVIRUS TYPE 2	55-77								
PEIBS_ADEC1	E1B PROTEIN, SMALL T-ANTIGEN	MOUSE ADENOVIRUS TYPE 1	118-138								
PE310_ADE02	EARLY E1B 10.4 KD PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 2	3-21	34-60							
PE310_ADE05	EARLY E1B 19.4 KD PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 5	3-21	33-60							
PE310_ADE07	EARLY E1B 10.4 KD PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 7	3-24								
PE311_ADE02	EARLY E1A 11.6 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 2	27-53								
PE311_ADE03	EARLY E1 9.0 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 3	19-45								
PE311_ADE05	EARLY E1A 10.5 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 5	20-46								
PE311_ADE07	EARLY E1 7.7 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	36-62								
PE314_ADE05	EARLY E1 14.5 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	108-125								
PE315_ADE03	EARLY E1B 14.5 KD PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 3	52-72								
PE315_ADE07	EARLY E1B 14.9 KD PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 7	52-72								
PE316_ADE03	EARLY E1 16 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 3	102-125								
PE321_ADE03	EARLY E1 20.5 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 3	146-167								
PE321_ADE07	EARLY E1 20.5 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 7	146-167								
PE322_ADEC1	EARLY E1 22.2 KD GLYCOPROTEIN	CANINE ADENOVIRUS TYPE 1 (STRAIN GLAXO)	155-177								
PE361_ADE01	PROBABLE EARLY E4 11 KD PROTEIN	MOUSE ADENOVIRUS TYPE 1	105-127								
PE411_ADE02	PROBABLE EARLY E4 11 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	56-77								
PE411_ADE03	PROBABLE EARLY E4 11 KD PROTEIN	HUMAN ADENOVIRUS TYPE 3	56-77								
PE433_ADE01	PROBABLE EARLY E4 33 KD PROTEIN	MOUSE ADENOVIRUS TYPE 1	61-80								
PE434_ADE02	EARLY E4 34 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	80-106								
PE434_ADE03	EARLY E4 34 KD PROTEIN	HUMAN ADENOVIRUS TYPE 3	261-286								
PEAR_EBV	EARLY ANTIGEN PROTEIN D	EPSTEIN-BARR VIRUS (STRAIN B95-8)	159-184								
PEAR_EBV	EARLY ANTIGEN PROTEIN R	EPSTEIN-BARR VIRUS (STRAIN B95-8)	126-141								
PEB2_EBV	EBNA-3 NUCLEAR PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	113-131	662-683							
PEB3_EBV	EBNA-3 NUCLEAR PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	21-41								
PEFT1_VARV	EARLY TRANSCRIPTION FACTOR 70 KD SUBUNIT	VARIOLA VIRUS	380-407								
PENV1_FR5FV	ENV POLYPROTEIN PRECURSOR	FRIEND SPLEEN FOCUS-FORMING VIRUS	380-407								
PENV2_FR5FV	ENV POLYPROTEIN PRECURSOR	FRIEND SPLEEN FOCUS-FORMING VIRUS	380-407								
PENV_AVR3	ENV POLYPROTEIN	AVIAN RETROVIRUS RPL30	206-225								
PENV_AVISU	COAT PROTEIN GP37	AVIAN SARCOMA VIRUS (STRAIN UR2)	98-117								
PENV_BAEVM	ENV POLYPROTEIN	ABOON ENDOGENOUS VIRUS (STRAIN MT)	170-190	202-224							
PENV_BIN06	ENV POLYPROTEIN PRECURSOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	47-68	178-201	434-450	525-546					
PENV_BIN27	ENV POLYPROTEIN PRECURSOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	47-68	147-168	207-230	463-479	554-575				
PENV_BLVAF	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AMERICAN ISOLATE FLK)	303-327								
PENV_BLVAV	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	303-327								
PENV_BLV81	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AMERICAN ISOLATE YDM)	303-327								
PENV_BLV82	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB285)	303-327								
PENV_BLV83	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB59)	303-327								
PENV_BLV7	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	303-327								
PENV_FENV1	ENV POLYPROTEIN PRECURSOR	FELINE ENDOGENOUS VIRUS ECE1	10-47	225-246	630-651						
PENV_FENV2	ENV POLYPROTEIN PRECURSOR	FELINE ENDOGENOUS VIRUS ECE1	10-47	225-246	630-651						
PENV_FENV6	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (CLONE CFE-6)	38-55	624-645							
PENV_FLV0L	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN AGLASGOW-1)	9-29	447-468	605-626						
PENV_FLV1L	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN LAMBDA-B1)	467-488	625-646							
PENV_FLV5A	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN SARMA)	444-465	602-623							
PENV_FOAMV	ENV POLYPROTEIN	HUMAN SPUMARETROVIRUS (FOAMY VIRUS)	153-174	255-275	300-325	481-496	710-727	864-887	924-951	957-978	
PENV_FSVGA	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	467-488	625-646							
PENV_FSVGB	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN GA)	447-468	605-626							
PENV_FSVSM	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN SM)	450-471	608-629							
PENV_FSVST	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN SNYDER-THEILEN)	467-488								
PENV_GALV	ENV POLYPROTEIN PRECURSOR	GIBBON APE LEUKEMIA VIRUS	519-540								
PENV_HY1B1	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE)	498-520								
PENV_HY1B8	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE)	493-515								
PENV_HY1B9	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAN ISOLATE)	494-516								
PENV_HY1B8	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	503-525								

PCGENE	FILENAME	PIZCTZIP	PROTEIN	All Viruses (No Bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PENV_HV1C4	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (CIC-451 ISOLATE)	428-448								
PENV_HV1E1	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (J11 ISOLATE)	495-517								
PENV_HV1H2	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (IIXB2 ISOLATE)	498-520								
PENV_HV1H3	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB3 ISOLATE)	498-520								
PENV_HV1J3	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JH3 ISOLATE)	510-532								
PENV_HV1J4	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JH4 ISOLATE)	490-512								
PENV_HV1KB	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN K11-CP12)	504-526	532-579	732-768						
PENV_HV1MA	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	500-522								
PENV_HV1MF	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MFA ISOLATE)	496-518								
PENV_HV1N3	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-3 ISOLATE)	178-203								
PENV_HV1ND	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	488-510								
PENV_HV1OY	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OY1 ISOLATE)	123-140								
PENV_HV1PV	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	498-520								
PENV_HV1RH	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF1/AT ISOLATE)	445-460								
PENV_HV1S1	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE)	489-511	738-754							
PENV_HV1S3	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF33 ISOLATE)	300-322								
PENV_HV1Z3	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2/CDC-234 ISOLATE)	123-145	410-427	495-517						
PENV_HV1Z5	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 3 ISOLATE)	117-133	175-198							
PENV_HV1Z6	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 6 ISOLATE)	497-519								
PENV_HV1Z8	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z-84 ISOLATE)	505-527								
PENV_HV1ZH	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE H2321 ISOLATE)	123-142	438-453	498-520						
PENV_HV2BE	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	3-26	750-775	781-804						
PENV_HV2CA	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	750-777								
PENV_HV2D1	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	3-26	741-766	772-795						
PENV_HV2D2	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7)	9-28								
PENV_HV2G1	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	741-766	772-795							
PENV_HV2N2	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-2)	742-767	777-800							
PENV_HV2R0	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	751-776								
PENV_HV2S8	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBLISY)	743-768	778-804							
PENV_HV2ST	GP160 PRECURSOR			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	745-770								
PENV_JSRV	ENV POLYPROTEIN PRECURSOR			SHEEP PULMONARY ADENOMATOSIS VIRUS	104-119	299-325	376-398	541-564					
PENV_MCF7	ENV POLYPROTEIN PRECURSOR			MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS	600-621								
PENV_MCFJ	ENV POLYPROTEIN PRECURSOR			MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS (ISOLATE CH-601-622)	601-622								
PENV_MLVAV	ENV POLYPROTEIN PRECURSOR			MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS	630-651								
PENV_MLVCB	ENV POLYPROTEIN PRECURSOR			CAS-BR-E MURINE LEUKEMIA VIRUS	625-646								
PENV_MLVFS	ENV POLYPROTEIN PRECURSOR			FRIEND MURINE LEUKEMIA VIRUS (ISOLATE 57)	639-660								
PENV_MLVFF	ENV POLYPROTEIN PRECURSOR			FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)	639-660								
PENV_MLVFP	ENV POLYPROTEIN PRECURSOR			FRIEND MURINE LEUKEMIA VIRUS (ISOLATE PVC-211)	639-660								
PENV_MLVHO	ENV POLYPROTEIN PRECURSOR			HOMULY MURINE LEUKEMIA VIRUS (MUS HORTULANUS VIRUS)	626-647								
PENV_MLVKI	ENV POLYPROTEIN			KIRSTEN MURINE LEUKEMIA VIRUS	167-188								
PENV_MLVMO	ENV POLYPROTEIN PRECURSOR			MOLONEY MURINE LEUKEMIA VIRUS	629-650								
PENV_MLVRD	ENV POLYPROTEIN PRECURSOR			RADIATION MURINE LEUKEMIA VIRUS	624-645								
PENV_MLVRK	ENV POLYPROTEIN PRECURSOR			RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	624-645								
PENV_MMTVB	ENV POLYPROTEIN			MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	643-663								
PENV_MMTVG	ENV POLYPROTEIN			MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	643-663								
PENV_MPNV	ENV POLYPROTEIN			MOUSE MAMMARY TUMOR VIRUS	213-225								
PENV_MSVFB	ENV POLYPROTEIN			FBI MURINE OSTEOSARCOMA VIRUS	170-191								
PENV_OMVVS	ENV POLYPROTEIN PRECURSOR			OVINE LENTIVIRUS (STRAIN SA-OMV)	658-683								
PENV_RMCFV	ENV POLYPROTEIN PRECURSOR			RAUSCHER MINK CELL FOCUS-INDUCING VIRUS	600-624								
PENV_RSVF	ENV POLYPROTEIN			ROUS SARCOMA VIRUS (STRAIN PRAGUE C)	42-49	533-552							
PENV_SFV1	ENV POLYPROTEIN			SMAN FOAMY VIRUS (TYPE 1)	300-325	710-727	864-887	924-951	957-978				
PENV_SFV2	ENV POLYPROTEIN			SMAN FOAMY VIRUS (TYPE 2 / STRAIN LK3)	157-178	304-329	707-724	861-884	921-948	954-975			
PENV_SIVAI	GP160 PRECURSOR			SMAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	437-458								
PENV_SIVAG	GP160 PRECURSOR			SMAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	442-463								
PENV_SIVAI	GP160 PRECURSOR			SMAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR1-1)	421-442								
PENV_SIVAT	GP160 PRECURSOR			SMAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	435-456								
PENV_SIVGB	GP160 PRECURSOR			SMAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	93-109								

PCGENE	P12CTL21P	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PENY_SIVM1	GPI60 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-83 ISOLATE)	766-793	801-826							
PENY_SIVM2	GPI60 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)		765-792	802-825						
PENY_SIVM3	GPI60 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	139-154	764-791	801-824						
PENY_SIVM4	GPI60 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (F216SMH4 ISOLATE)	769-789	806-829							
PENY_SIVM5	GPI60 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (PB1BC13 ISOLATE)	773-793	810-833							
PENY_SIVM6	P15E PROTEIN	SIMIAN SARCOMA VIRUS	42-63								
PENY_SIVM7	ENV POLYPROTEIN	SIMIAN RETROVIRUS SKV-1	213-235								
PENY_SIVM8	ERBA ONCOGENE PROTEIN	AVIAN ERYTHROBLASTOSIS VIRUS (STRAIN ES4)	227-249								
PETFL_FOWP1	EARLY TRANSCRIPTION FACTOR	FOWL POX VIRUS (STRAIN FP-1)	21-41	73-92							
PETFL_SFVKA	EARLY TRANSCRIPTION FACTOR	SHOPE FIBROMA VIRUS (STRAIN KASZA)	21-41								
PETFL_VACCC	EARLY TRANSCRIPTION FACTOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	21-41								
PETFL_VACCV	EARLY TRANSCRIPTION FACTOR	VACCINIA VIRUS (STRAIN WR)	21-41								
PETFL2_VACCC	EARLY TRANSCRIPTION FACTOR 82 KD SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)	50-73	101-117	165-187	285-308	558-582				
PETFL2_VACCV	EARLY TRANSCRIPTION FACTOR 82 KD SUBUNIT	VACCINIA VIRUS (STRAIN WR)	48-72								
PETFL2_VAVR	EARLY TRANSCRIPTION FACTOR 82 KD SUBUNIT	VARIOLA VIRUS	50-73	101-117	165-187	285-308	558-582				
PETFL2_VSV1	ALKALINE EXONUCLEASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	165-180								
PEXON_HSV1	ALKALINE EXONUCLEASE	HERPES SIMPLEX VIRUS (TYPE 2)	155-170								
PEXON_HSV2	ALKALINE EXONUCLEASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	276-291								
PEXON_HSV3	ALKALINE EXONUCLEASE	PSUEDORABIES VIRUS (STRAIN NIA-3)	36-51								
PEXON_HSV4	ALKALINE EXONUCLEASE	VARIOLA-ZOSTER VIRUS (STRAIN DUMAS)	28-44	217-242							
PEXON_HSV5	ALKALINE EXONUCLEASE	HUMAN ADENOVIRUS TYPE 40	116-133								
PEXON_HSV6	41.4 KD FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 41	116-133								
PFIB2_ADEA1	41.4 KD FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 3	152-173								
PFIB2_ADEB1	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 5	447-473								
PFIB2_ADEC1	FIBER PROTEIN	BOVINE ADENOVIRUS TYPE 3 (MAST ADENOVIRUS BOS3)	347-372	775-801							
PFIB2_ADEM1	FIBER PROTEIN	CANINE ADENOVIRUS TYPE 1 (STRAIN GLAXO)	382-397								
PGAG_AVEV1	GAG POLYPROTEIN	MOUSE ADENOVIRUS TYPE 1	191-215	227-252	493-513	548-576	579-599				
PGAG_AVEV2	GAG POLYPROTEIN	AVIAN ENDOGENOUS ROUS-ASSOCIATED VIRUS-0	53-78								
PGAG_AVEV3	GAG POLYPROTEIN	AVIAN ENDOGENOUS ROUS-ASSOCIATED VIRUS-0	2-27								
PGAG_AVEV4	GAG POLYPROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS MC29	53-78								
PGAG_AVEV5	GAG POLYPROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS HBI	53-78								
PGAG_AVEV6	CORE PROTEIN P19	AVIAN SARCOMA VIRUS (STRAIN UR2)	53-78								
PGAG_AVEV7	GAG POLYPROTEIN	AVIAN SARCOMA VIRUS (STRAIN Y73)	53-78								
PGAG_AVEV8	GAG POLYPROTEIN	BARBOON ENDOGENOUS VIRUS (STRAIN M7)	397-422								
PGAG_AVEV9	GAG POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	212-238								
PGAG_AVEV10	GAG POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	213-239								
PGAG_AVEV11	GAG POLYPROTEIN	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	102-119								
PGAG_AVEV12	GAG POLYPROTEIN	FUJINAMI SARCOMA VIRUS	53-78								
PGAG_AVEV13	GAG POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE 1 (STRAIN ATK)	77-94								
PGAG_AVEV14	GAG POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE 1 (CARIBBEAN ISOLATE)	77-94								
PGAG_AVEV15	GAG POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE 1 (ISOLATE MT-2)	77-94								
PGAG_AVEV16	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2/SF2 ISOLATE)	65-91								
PGAG_AVEV17	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE)	65-91								
PGAG_AVEV18	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH5 ISOLATE)	65-91								
PGAG_AVEV19	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	65-91								
PGAG_AVEV20	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (CDC-451 ISOLATE)	65-91								
PGAG_AVEV21	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	65-91								
PGAG_AVEV22	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE)	65-91								
PGAG_AVEV23	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (H3 ISOLATE)	65-91								
PGAG_AVEV24	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRC5F ISOLATE)	65-91								
PGAG_AVEV25	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	262-283								
PGAG_AVEV26	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	65-91								
PGAG_AVEV27	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-3 ISOLATE)	65-91								
PGAG_AVEV28	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	65-91	352-373							
PGAG_AVEV29	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OY1 ISOLATE)	65-91								
PGAG_AVEV30	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	65-91								
PGAG_AVEV31	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF/HAT ISOLATE)	65-91								

PCGENE	P12CTL2IP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PIHMA_P1H1U	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX930562)	111-128	272-299	324-340						
PIHMA_P1H1V	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX1267783)	111-128	272-299	324-340						
PIHMA_P1H1W	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN WAS10641799)	111-128	272-299	324-340						
PIHMA_P1H1X	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN WAS101511773)	111-128	272-299	324-340						
PIHMA_P1H1Y	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA)	50-67								
PIHMA_P1H2K	HEMAGGLUTININ-NEURAMINIDASE	RINDERPEST VIRUS (STRAIN KABETE O)	368-383								
PIHMA_P1H2L	HEMAGGLUTININ-NEURAMINIDASE	RINDERPEST VIRUS (STRAIN L)	4-30								
PIHMA_P1H2S	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN 2 / HOST MUTANTS)	322-342								
PIHMA_P1H2F	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN FUSIIMI)	322-342								
PIHMA_P1H2I	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN IARRIS)	322-342								
PIHMA_P1H2J	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN HV)	322-342								
PIHMA_P1H2Z	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN Z)	322-342								
PIHMA_P1H41	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 41	55-73	85-102	107-132						
PIHMA_P1H43	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 5 (STRAIN W3)	7-28	84-101	379-400						
PIHMA_P1H4N	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 5 (ISOLATE CANINE/CPI-)	7-28	84-101	379-400						
PIHMA_P1H4P	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 5 (ISOLATE CANINE/CPI+)	7-28	84-101	379-400						
PIHMA_P1H4Q	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 5 (ISOLATE CANINE/CPI+)	7-28	84-101	379-400						
PIHMA_P1H4R	HEMAGGLUTININ-NEURAMINIDASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	173-192								
PIHMA_P1H4S	HEMAGGLUTININ-NEURAMINIDASE	VACCINIA VIRUS (STRAIN IHD-1)	173-192								
PIHMA_P1H4T	HEMAGGLUTININ-NEURAMINIDASE	VACCINIA VIRUS (STRAIN TIAN TAN)	173-192								
PIHMA_P1H4V	HEMAGGLUTININ-NEURAMINIDASE	VACCINIA VIRUS (STRAIN WA)	173-192								
PIHMA_P1H4W	HEMAGGLUTININ-NEURAMINIDASE	VARIOLA VIRUS	175-194								
PIHMA_P1H4X	HEMAGGLUTININ-NEURAMINIDASE	HUMAN ADENOVIRUS TYPE 2	38-61	119-140							
PIHMA_P1H4Y	HEMAGGLUTININ-NEURAMINIDASE	HUMAN ADENOVIRUS TYPE 3	27-48								
PIHMA_P1H4Z	HEMAGGLUTININ-NEURAMINIDASE	HUMAN ADENOVIRUS TYPE 3	38-61	119-140							
PIHMA_P1H51	HEMAGGLUTININ-NEURAMINIDASE	HUMAN ADENOVIRUS TYPE 41	38-61	128-146							
PIHMA_P1H52	HEMAGGLUTININ-NEURAMINIDASE	MOUSE ADENOVIRUS TYPE 1	36-52								
PIHMA_P1H53	HEMAGGLUTININ-NEURAMINIDASE	HUMAN ADENOVIRUS TYPE 7, AND 3	92-117								
PIHMA_P1H54	HEMAGGLUTININ-NEURAMINIDASE	CANINE ADENOVIRUS TYPE 2	52-77								
PIHMA_P1H55	HEMAGGLUTININ-NEURAMINIDASE	TUPAIA ADENOVIRUS	60-82								
PIHMA_P1H56	HEMAGGLUTININ-NEURAMINIDASE	COWPOX VIRUS	517-533	558-583	609-636						
PIHMA_P1H57	HEMAGGLUTININ-NEURAMINIDASE	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	68-83								
PIHMA_P1H58	HEMAGGLUTININ-NEURAMINIDASE	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	169-190								
PIHMA_P1H59	HEMAGGLUTININ-NEURAMINIDASE	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	60-77								
PIHMA_P1H60	HEMAGGLUTININ-NEURAMINIDASE	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	239-260								
PIHMA_P1H61	HEMAGGLUTININ-NEURAMINIDASE	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	2-29								
PIHMA_P1H62	HEMAGGLUTININ-NEURAMINIDASE	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	97-119								
PIHMA_P1H63	HEMAGGLUTININ-NEURAMINIDASE	SOYBEAN CHLOROTIC MOTTLE VIRUS	101-123	131-153	759-777						
PIHMA_P1H64	HEMAGGLUTININ-NEURAMINIDASE	EPSTEIN-BARR VIRUS (STRAIN B95-9)	156-176	202-222							
PIHMA_P1H65	HEMAGGLUTININ-NEURAMINIDASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD 69)	8-29	45-61	122-143	751-768					
PIHMA_P1H66	HEMAGGLUTININ-NEURAMINIDASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	8-29	45-61	122-143	751-768					
PIHMA_P1H67	HEMAGGLUTININ-NEURAMINIDASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN ANGELOTTI)	8-29	45-61	122-143	751-768					
PIHMA_P1H68	HEMAGGLUTININ-NEURAMINIDASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	8-29	122-143	746-763						
PIHMA_P1H69	HEMAGGLUTININ-NEURAMINIDASE	BOVINE HERPESVIRUS TYPE 2 (STRAIN BNIV)	12-37	130-151							
PIHMA_P1H70	HEMAGGLUTININ-NEURAMINIDASE	HERPESVIRUS SAIMIRI (STRAIN 11)	37-56	129-144	732-755						
PIHMA_P1H71	HEMAGGLUTININ-NEURAMINIDASE	HERPESVIRUS SAIMIRI (STRAIN 11)	27-49	51-78	647-672						
PIHMA_P1H72	HEMAGGLUTININ-NEURAMINIDASE	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	176-144	202-229	386-411						
PIHMA_P1H73	HEMAGGLUTININ-NEURAMINIDASE	PSEUDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKER)	285-307	698-718							
PIHMA_P1H74	HEMAGGLUTININ-NEURAMINIDASE	VARIOLA-ZOSTER VIRUS (STRAIN DUMAS)	69-88	619-639	725-744						
PIHMA_P1H75	HEMAGGLUTININ-NEURAMINIDASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	668-684								
PIHMA_P1H76	HEMAGGLUTININ-NEURAMINIDASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG32)	713-729								
PIHMA_P1H77	HEMAGGLUTININ-NEURAMINIDASE	PSEUDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKER)	82-102								
PIHMA_P1H78	HEMAGGLUTININ-NEURAMINIDASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	211-227								
PIHMA_P1H79	HEMAGGLUTININ-NEURAMINIDASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	81-98	621-637							
PIHMA_P1H80	HEMAGGLUTININ-NEURAMINIDASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	708-725	736-759							
PIHMA_P1H81	HEMAGGLUTININ-NEURAMINIDASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	708-725	736-759							
PIHMA_P1H82	HEMAGGLUTININ-NEURAMINIDASE	MAREK'S DISEASE HERPESVIRUS (STRAIN GA)	488-506	585-611	1202-1218						
PIHMA_P1H83	HEMAGGLUTININ-NEURAMINIDASE	VARIOLA-ZOSTER VIRUS (STRAIN DUMAS)	547-563								

PCGENE	P12CTLZIP	All Viruses (No Bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS									
PIE18 PRVIF	IMMEDIATE-EARLY PROTEIN IE180	PSEUDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKER)	731-748								
PIE18 PRVKA	IMMEDIATE-EARLY PROTEIN IE180	PSEUDORABIES VIRUS (STRAIN KAPLAN)	720-717								
PIE63 HCMVA	TRANSCRIPTIONAL REGULATOR IE63 HOMOLOG	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	364-383								
PIE63 HSV11	TRANSCRIPTIONAL REGULATOR IE63	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	286-304								
PIE63 HSV2H	TRANSCRIPTIONAL REGULATOR IE63	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 11G53)	378-394								
PIE63 HSV2B	TRANSCRIPTIONAL REGULATOR IE63 HOMOLOG	EQUINE HERPESVIRUS TYPE 1 (STRAIN A104P)	372-353								
PIE63 HSV5A	31 KD IMMEDIATE-EARLY PHOSPHOPROTEIN	HERPESVIRUS SAMIRI (STRAIN 11)	301-326								
PIE68 HSV11	IMMEDIATE-EARLY PROTEIN IE68	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	189-205								
PIE68 HSV5A	IMMEDIATE-EARLY PROTEIN IE68	EQUINE HERPESVIRUS TYPE 4	81-104								
PIE68 HSV2B	IMMEDIATE-EARLY PROTEIN	EQUINE HERPESVIRUS TYPE 1	93-116								
PIE68 PRVKA	IMMEDIATE-EARLY PROTEIN	PSEUDORABIES VIRUS (STRAIN KAPLAN)	85-108								
PIE68 VZVD	GENE 63/70 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	57-78								
PIR14 HCMVA	HYPOTHETICAL PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	117-137								
PKERB_AVIER	EBB TYROSINE KINASE TRANSFORMING PROTEIN	AVIAN ERYTHROBLASTOSIS VIRUS	64-84	297-324							
PKFES_FSVGA	TYROSINE-PROTEIN KINASE TRANSFORMING PROTEIN	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	73-88								
PKFES_FSVST	TYROSINE-PROTEIN KINASE TRANSFORMING PROTEIN	FELINE SARCOMA VIRUS (STRAIN SNYDER-THEILEN)	2-22								
PKFGR_FSVGR	TYROSINE-PROTEIN KINASE TRANSFORMING PROTEIN	FELINE SARCOMA VIRUS (STRAIN GARDNER-RASHEED)	269-288								
PKFGR_FSVMD	FMS TYROSINE KINASE TRANSFORMING PROTEIN	FELINE SARCOMA VIRUS (STRAIN MCDONOUGH1)	141-159	243-263	434-450	548-563	781-801	856-877			
PKFPS_AVISP	TYROSINE-PROTEIN KINASE TRANSFORMING PROTEIN	AVIAN SARCOMA VIRUS (STRAIN PRCI1)	247-274								
PKFPS_FUISV	TYROSINE-PROTEIN KINASE TRANSFORMING PROTEIN	FUJINAMI SARCOMA VIRUS	259-275	346-370	400-420	587-614					
PKITH_ASF67	THYMIDINE KINASE	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	18-41								
PKITH_EBV	THYMIDINE KINASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	403-418	428-446							
PKITH_FLDV	THYMIDINE KINASE	FISH LYMPHOCYTOSIS DISEASE VIRUS	96-117	252-275							
PKITH_HSV11	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	223-249								
PKITH_HSV1C	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN CL101)	223-249								
PKITH_HSV1E	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN HFEM)	223-249								
PKITH_HSV1K	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	223-249								
PKITH_HSV1S	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN SC16)	223-249								
PKITH_HSV23	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 333)	224-250	333-348							
PKITH_HSVB6	THYMIDINE KINASE	BOVINE HERPESVIRUS TYPE 1 (STRAIN 6660)	193-219	280-304							
PKITH_HSVBH	THYMIDINE KINASE	BOVINE HERPESVIRUS TYPE 2 (STRAIN BHM-1)	180-202								
PKITH_HSVBM	THYMIDINE KINASE	BOVINE HERPES VIRUS TYPE 3 (STRAIN WC11)	381-399	609-633							
PKITH_HSVBQ	THYMIDINE KINASE	BOVINE HERPESVIRUS TYPE 12 (STRAIN QJ932)	194-220	282-306							
PKITH_HSV6A	THYMIDINE KINASE	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	174-193	261-284							
PKITH_HSV6B	THYMIDINE KINASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) AND (ISOLATE HVS23A)	18-33	174-193	274-298						
PKITH_HSVF	THYMIDINE KINASE	FELINE HERPESVIRUS (FELID HERPESVIRUS 1)	171-189								
PKITH_HSV11	THYMIDINE KINASE	ICTALURID HERPESVIRUS 1	14-32								
PKITH_HSVNR	THYMIDINE KINASE	MARMOSSET HERPESVIRUS	189-215								
PKITH_HSVSA	THYMIDINE KINASE	HERPESVIRUS SAMIRI (STRAIN 11)	208-232								
PKITH_LTVT	THYMIDINE KINASE	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	183-202	208-234							
PKITH_VZV4	THYMIDINE KINASE	VARICELLA-ZOSTER VIRUS (ACYCLOVIR-RESISTANT STRAIN 40A2)	197-216								
PKITH_VZV7	THYMIDINE KINASE	VARICELLA-ZOSTER VIRUS (ACYCLOVIR-RESISTANT STRAIN 7-1-3)	197-216								
PKITH_VZVD	THYMIDINE KINASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	197-216								
PKITH_VZVG	THYMIDINE KINASE	VARICELLA-ZOSTER VIRUS (ACYCLOVIR-RESISTANT STRAIN GK)	197-216								
PKITH_VZVW	THYMIDINE KINASE	VARICELLA-ZOSTER VIRUS (VZV)	197-216								
PKKIT_FSVHZ	KIT TYROSINE KINASE TRANSFORMING PROTEIN	FELINE SARCOMA VIRUS (STRAIN HARDY-ZUCKERMAN 4)	192-214	276-297							
PKR15_HSV11	GENE 15 PROTEIN KINASE	ICTALURID HERPESVIRUS 1	151-167	338-374							
PKR16_HSV11	GENE 16 PROTEIN KINASE	ICTALURID HERPESVIRUS 1	197-217	286-311							
PKR1_HSV11	SERINE/THREONINE-PROTEIN KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	276-296	338-377							
PKR1_HSV2	SERINE/THREONINE-PROTEIN KINASE	HERPES SIMPLEX VIRUS (TYPE 2)	289-307								
PKR1_HSV2B	SERINE/THREONINE-PROTEIN KINASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	289-307								
PKR1_HSV2K	SERINE/THREONINE-PROTEIN KINASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	289-307								
PKR1_VZVD	SERINE/THREONINE-PROTEIN KINASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	179-197								
PKR2_EBV	PROBABLE SERINE/THREONINE-PROTEIN KINASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	196-211	313-338							
PKR2_HSV11	PROBABLE SERINE/THREONINE-PROTEIN KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	247-267								
PKR2_HSV2B	PROBABLE SERINE/THREONINE-PROTEIN KINASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	317-339	441-462							
PKR3_PRVNS	SERINE/THREONINE-PROTEIN KINASE 2	PSEUDORABIES VIRUS (STRAIN NIA-3)	164-185	282-305							

PCGENE	PICTLZIP	PROTEIN	ALL Viruses (No Bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PKR2_VZVD	PROBABLE SERINE/THREONINE-PROTEIN KINASE	VIRUS	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	116-131	226-247	354-373						
PKR71_HSV1	GENE 73 PROTEIN KINASE		ICTALURID HERPESVIRUS 1	841-858								
PKR74_HSV1	GENE 74 PROTEIN KINASE		ICTALURID HERPESVIRUS 1	359-380	548-575							
PKRB1_VACC	30 KD PROTEIN KINASE HOMOLOG		VACCINIA VIRUS (STRAIN COPENHAGEN)	199-214								
PKRB1_VACV	30 KD PROTEIN KINASE HOMOLOG		VACCINIA VIRUS (STRAIN WR)	199-214								
PKRB1_VAV	30 KD PROTEIN KINASE HOMOLOG		VARIOLA VIRUS	199-214								
PKRF1_SFVK	POSSIBLE PROTEIN KINASE C20		SHOPE FIBROMA VIRUS (STRAIN KASZA)	83-98								
PKRF1_VACC	POSSIBLE PROTEIN KINASE F10		VACCINIA VIRUS (STRAIN COPENHAGEN)	85-100								
PKRF1_VACCP	POSSIBLE PROTEIN KINASE F10		VACCINIA VIRUS (STRAIN L-147)	52-67								
PKRF1_VAV	POSSIBLE PROTEIN KINASE F10		VARIOLA VIRUS	85-100								
PKRS_VISU	ROS TYR KINASE TRANSFORMING PROTEIN		AVIAN SARCOMA VIRUS (STRAIN UR2)	6-29	202-223	284-305						
PKRYK_AVR3	TYR-PROTEIN KINASE TRANSFORMING PROTEIN R		AVIAN RETROVIRUS RPL30	154-172	221-241							
PKSEA_AVIET	TYR-PROTEIN KINASE TRANSFORMING PROTEIN SE		AVIAN ERYTHROBLASTOSIS VIRUS (STRAIN S11)	158-177								
PKSRC_AVIS2	TYR-PROTEIN KINASE TRANSFORMING PROTEIN SR		AVIAN SARCOMA VIRUS (STRAIN PR2257)	361-377								
PKSRC_AVISR	TYR-PROTEIN KINASE TRANSFORMING PROTEIN SR		AVIAN SARCOMA VIRUS (STRAIN RASV1441)	361-377								
PKSRC_AVIS3	TYR-PROTEIN KINASE TRANSFORMING PROTEIN SR		AVIAN SARCOMA VIRUS (STRAIN S1)	361-377								
PKSRC_AVIS1	TYR-PROTEIN KINASE TRANSFORMING PROTEIN SR		AVIAN SARCOMA VIRUS (STRAIN S2)	361-377								
PKSRC_RSVH1	TYR-PROTEIN KINASE TRANSFORMING PROTEIN SR		AVIAN SARCOMA VIRUS (STRAIN H-19)	361-377								
PKSRC_RSVF	TYR-PROTEIN KINASE TRANSFORMING PROTEIN SR		AVIAN SARCOMA VIRUS (STRAIN PRAGUE C)	361-377								
PKSRC_RSVPA	TYR-PROTEIN KINASE TRANSFORMING PROTEIN SR		AVIAN SARCOMA VIRUS (STRAIN PA1017)	358-374								
PKSRC_RSVSR	TYR-PROTEIN KINASE TRANSFORMING PROTEIN SR		AVIAN SARCOMA VIRUS (STRAIN SCHMIDT-RUPPIN)	361-377								
PKYES_AVISY	TYR-PROTEIN KINASE TRANSFORMING PROTEIN Y		AVIAN SARCOMA VIRUS (STRAIN Y73)	361-377								
PL100_ADE02	LATE 100 KD PROTEIN		HUMAN ADENOVIRUS TYPE 2	489-511								
PL100_ADE03	LATE 100 KD PROTEIN		HUMAN ADENOVIRUS TYPE 5	489-511								
PL100_ADE41	LATE 100 KD PROTEIN		HUMAN ADENOVIRUS TYPE 41	458-480								
PL52_ADE03	LATE L1 52 KD PROTEIN		HUMAN ADENOVIRUS TYPE 2	237-259								
PLEC1_FOWPM	HEPATIC LECTIN HOMOLOG		HUMAN ADENOVIRUS TYPE 5	237-259								
PLMPT_EBV	LATE MEMBRANE PROTEIN 1		FOWLPOX VIRUS (ISOLATE IP-418)(UNIC/11)	2-26								
PLMPT_EBVC	LATE MEMBRANE PROTEIN 1		EPSTEIN-BARR VIRUS (STRAIN B95-8)	20-43	79-100							
PLMPT_EBVR	LATE MEMBRANE PROTEIN 1		EPSTEIN-BARR VIRUS (STRAIN B95-8)	20-43	79-100							
PLMPT_EBV	GENE TERMINAL PROTEIN		EPSTEIN-BARR VIRUS (STRAIN B95-8)	20-43	79-100							
PMCEL_SFVKA	MRNA CAPPING ENZYME, LARGE SUBUNIT		SHOPE FIBROMA VIRUS (STRAIN KASZA)	181-196	204-226	267-288	291-315	346-369	390-410			
PMCEL_VACC	MRNA CAPPING ENZYME, LARGE SUBUNIT		VACCINIA VIRUS (STRAIN COPENHAGEN)	244-260	556-578	679-699						
PMCEL_VAV	MRNA CAPPING ENZYME, LARGE SUBUNIT		VACCINIA VIRUS (STRAIN WR)	81-102	265-282	289-312	687-707					
PMCE_ASFBI	MRNA CAPPING ENZYME		VARIOLA VIRUS	81-102	265-282	289-312	687-707					
PMCE_REOVD	MRNA CAPPING ENZYME		AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	217-243								
PMOVP_CMVVS	MOVEMENT PROTEIN		REOVIRUS (TYPE 3) (STRAIN DEARING)	358-384	567-588	714-741						
PMOVP_ORSV	MOVEMENT PROTEIN		CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN)	157-172								
PMOVP_PPMVS	MOVEMENT PROTEIN		CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN)	157-172								
PMOVP_TMGAV	MOVEMENT PROTEIN		ODONTOGLOSSUM RINGSPOT VIRUS	49-74	178-205							
PMOVP_TMACV	MOVEMENT PROTEIN		PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN)	25-50	186-201							
PMTC1_CHVNI	MODIFICATION METHYLASE CVIIB		TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U2)	186-201								
PMTC1_CHVPI	MODIFICATION METHYLASE CVIIB		TOBACCO MOSAIC VIRUS (STRAIN COWPEA)	88-107	156-171							
PMYBE_AVLE	P13-GAG-MYB-ETS TRANSFORMING PROTEIN (CHLORELLA VIRUS NC-1A	129-156								
PMYB_AVMB	MYB TRANSFORMING PROTEIN		CHLORELLA VIRUS NC-1A	129-156								
PNCAP_AINOV	NUCLEOCAPSID PROTEIN		PARAMECIUM BURSARIA CHLORELLA VIRUS 1 (72-94	265-286							
PNCAP_BUNLC	NUCLEOCAPSID PROTEIN		CHLORELLA VIRUS NC-1A	177-192								
PNCAP_BUNSH	NUCLEOCAPSID PROTEIN		AVIAN LEUKEMIA VIRUS E26	104-124								
PNCAP_CDVO	NUCLEOCAPSID PROTEIN		AVIAN MYELOBLASTOSIS VIRUS	218-238	301-326							
PNCAP_FIPV	NUCLEOCAPSID PROTEIN		AINO VIRUS	159-181								
PNCAP_HANTV	NUCLEOCAPSID PROTEIN		BUNYAVIRUS LA CROSSE	84-99								
PNCAP_HAZV1	NUCLEOCAPSID PROTEIN		BUNYAVIRUS SNOWSHOE HARE	84-99								
PNCAP_HRV	NUCLEOCAPSID PROTEIN		CANINE DISTEMPER VIRUS (STRAIN ONDERSTPOORT)	31-50								
			FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	57-74								
			HANTANA VIRUS (STRAIN 76-118)	317-342								
			HAZARA VIRUS (ISOLATE IC280)	428-446								
			INFECTIOUS HEMATOPOIETIC NECROSIS VIRUS (STRAIN ROUND BUT	110-137	239-265							

PCGENE	FILE_NAME	PROTEIN	PI2CTL2IP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PPOLG_DEN2	GENOME POLYPROTEIN			DENQUE VIRUS TYPE 2 (STRAIN JAMAICA)	848-868 2700-2726	919-944	1112-1130	1344-1761	1376-1396	1611-1629	2291-2318	2347-2364	2405-2425
PPOLG_DEN2N	GENOME POLYPROTEIN			DENQUE VIRUS TYPE 2 (STRAIN NEW GUINEA C)	100-120	171-196	364-391		1376-1396	1613-1629	2290-2315	2344-2361	2402-2422
PPOLG_DEN2P	GENOME POLYPROTEIN			DENQUE VIRUS TYPE 2 (STRAIN PK159/S1)	919-944	1112-1139	1244-1261	1283-1301					
PPOLG_DEN2T	GENOME POLYPROTEIN			DENQUE VIRUS TYPE 2 (STRAIN TONGA 1974)	2697-2723								
PPOLG_DEN3	GENOME POLYPROTEIN			DENQUE VIRUS TYPE 4	639-664	832-859	964-981	1203-1219					
PPOLG_DEN3	GENOME POLYPROTEIN			DENQUE VIRUS TYPE 4	917-942	1210-1234	1242-1259	1774-1794	1611-1627	2141-2162	2271-2297	2346-2364	2409-2424
PPOLG_DEN4	GENOME POLYPROTEIN			DENQUE VIRUS TYPE 4	2698-2724	1048-1067							
PPOLG_EC1G	GENOME POLYPROTEIN			ECHOVIRUS 11 (STRAIN GREGORY)	664-690	774-799							
PPOLG_EC1V	GENOME POLYPROTEIN			ECHOVIRUS 11 (STRAIN GREGORY)	225-247	558-578	1194-1215	1650-1667					
PPOLG_EMCVB	GENOME POLYPROTEIN			ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-B NONDIABETOTIC)	560-580	1120-1141	1196-1217						
PPOLG_EMCVD	GENOME POLYPROTEIN			ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-D DIABETOTIC)	560-580	1120-1141	1196-1217						
PPOLG_ENMG3	GENOME POLYPROTEIN			MENGO ENCEPHALOMYOCARDITIS VIRUS (STRAIN 37A)	560-580								
PPOLG_ENMGO	GENOME POLYPROTEIN			MENGO ENCEPHALOMYOCARDITIS VIRUS	493-513								
PPOLG_FMDV1	GENOME POLYPROTEIN			FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A10-61)	121-141	984-1003	1036-1057	1396-1411	1465-1487	1764-1791			
PPOLG_FMDV4	GENOME POLYPROTEIN			FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A5)	162-187								
PPOLG_FMDV5	GENOME POLYPROTEIN			FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A12)	121-140	984-1003	1036-1057	1396-1411	1465-1487	1763-1790			
PPOLG_FMDV6	GENOME POLYPROTEIN			FOOT-AND-MOUTH DISEASE VIRUS (STRAINS O1K AND O1HFS)	121-141	984-1003	1036-1057	1396-1411	1465-1487	1763-1790			
PPOLG_FMDV7	GENOME POLYPROTEIN			FOOT-AND-MOUTH DISEASE VIRUS (STRAIN C1-SANTA PAULI C-58)	301-320								
PPOLG_FMDV8	GENOME POLYPROTEIN			FOOT-AND-MOUTH DISEASE VIRUS (STRAIN C1)	121-141	979-998							
PPOLG_HCV1	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE 1)	112-133	143-169	619-640	683-699	833-857	2327-2347	2442-2457	2837-2859	
PPOLG_HCV2	GENOME POLYPROTEIN			HOG CHOLERA VIRUS (STRAIN ALFORT)	102-128	1143-1163	1282-1301	1778-1802	2370-2397	2518-2538	3131-3152	3737-3753	3767-3782
PPOLG_HCV3	GENOME POLYPROTEIN			HOG CHOLERA VIRUS (STRAIN BRESCIA)	3877-3893								
PPOLG_HCV4	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE BK)	3877-3893								
PPOLG_HCV5	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE EC1)	112-133	143-169	619-640	683-699	2327-2347	2441-2456	2836-2858	2988-3007	
PPOLG_HCV6	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE H)	27-53								
PPOLG_HCV7	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE HCV-476)	112-133	143-169	619-640	683-699	833-853	863-880	2442-2457	2837-2859	
PPOLG_HCV8	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE HCT72)	15-41								
PPOLG_HCV9	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE HCT18)	27-53								
PPOLG_HCV10	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE HCV-KF)	112-133	143-169							
PPOLG_HCV11	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE HC-12)	112-133	143-169							
PPOLG_HCV12	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE HC-15)	112-133	143-169							
PPOLG_HCV13	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE HC-17)	112-133	143-169							
PPOLG_HCV14	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE HC-18)	112-133	143-169							
PPOLG_HCV15	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE JAPANESE)	112-133	143-169							
PPOLG_HCV16	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE HC-JT)	112-133	143-169							
PPOLG_HCV17	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE TH)	27-53								
PPOLG_HCV18	GENOME POLYPROTEIN			HEPATITIS C VIRUS (ISOLATE TAIWAN)	112-133	143-169							
PPOLG_HCV19	GENOME POLYPROTEIN			HEPATITIS A VIRUS (STRAIN LDC-1)	303-323								
PPOLG_HCV20	GENOME POLYPROTEIN			HEPATITIS A VIRUS (STRAIN 24A)	401-428	799-819	1195-1210	1687-1708	2008-2033	2068-2092			
PPOLG_HCV21	GENOME POLYPROTEIN			HEPATITIS A VIRUS (STRAIN 43C)	799-819	1195-1210	1687-1708	2008-2033	2068-2092				
PPOLG_HCV22	GENOME POLYPROTEIN			HEPATITIS A VIRUS (STRAIN 18F)	799-819	1195-1210	1687-1708	2008-2033	2068-2092				
PPOLG_HCV23	GENOME POLYPROTEIN			HEPATITIS A VIRUS (STRAIN CR326)	799-819								
PPOLG_HCV24	GENOME POLYPROTEIN			HEPATITIS A VIRUS (STRAIN GA76)	778-798								
PPOLG_HCV25	GENOME POLYPROTEIN			HEPATITIS A VIRUS (STRAIN HSI-175)	799-819	1195-1210	1688-1709	2009-2034	2069-2093				
PPOLG_HCV26	GENOME POLYPROTEIN			HEPATITIS A VIRUS (STRAIN LA)	799-819	1195-1210	1688-1709	2009-2034	2069-2093				
PPOLG_HCV27	GENOME POLYPROTEIN			HEPATITIS A VIRUS (STRAIN MBB)	799-819	1195-1210	1688-1709	2009-2034	2069-2093				
PPOLG_HCV28	GENOME POLYPROTEIN			HEPATITIS A VIRUS (STRAIN AGM-27)	1199-1214	1690-1711	2012-2037	2072-2096					
PPOLG_HCV29	GENOME POLYPROTEIN			HUMAN RHINOVIRUS 14 (HRV-14)	1383-1406	1962-1982							
PPOLG_HCV30	GENOME POLYPROTEIN			HUMAN RHINOVIRUS 1A (HRV-1A)	361-379	547-562							
PPOLG_HCV31	GENOME POLYPROTEIN			HUMAN RHINOVIRUS 1B (HRV-1B)	386-404	572-587							
PPOLG_HCV32	GENOME POLYPROTEIN			HUMAN RHINOVIRUS 2 (HRV-2)	569-584	694-713	1022-1045	1446-1469	1618-1634	1809-1835	1843-1866		
PPOLG_HCV33	GENOME POLYPROTEIN			HUMAN RHINOVIRUS 89 (HRV-89)	576-591	1038-1061	1229-1253	1332-1358	1460-1483	1632-1648	1823-1849	1948-1968	

PCGENE	PICTLZIP	FILENAME	PROTEIN	VIRUS (No Bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PPOLG_LIVV1	GENOME POLYPYPTHEIN	PPOLG_LIVV1	GENOME POLYPYPTHEIN	HUMAN INTERFERON- γ (STRAIN J67071)	1492-1515								
PPOLG_LIVV2	STRUCTURAL POLYPYPTHEIN	PPOLG_LIVV2	STRUCTURAL POLYPYPTHEIN	AVIAN INFLUENZA VIRUS (STRAIN 101)	905-922								
PPOLG_LIVV3	GENOME POLYPYPTHEIN	PPOLG_LIVV3	GENOME POLYPYPTHEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA-14)	918-922								
PPOLG_LIVV4	GENOME POLYPYPTHEIN	PPOLG_LIVV4	GENOME POLYPYPTHEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA-14)	918-963								
PPOLG_LIVV5	GENOME POLYPYPTHEIN	PPOLG_LIVV5	GENOME POLYPYPTHEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN JAOARS82)	918-963								
PPOLG_LIVV6	GENOME POLYPYPTHEIN	PPOLG_LIVV6	GENOME POLYPYPTHEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN NAKA YAMA)	866-891								
PPOLG_LIVV7	GENOME POLYPYPTHEIN	PPOLG_LIVV7	GENOME POLYPYPTHEIN	KUNIN VIRUS (STRAIN MK60(C))	561-576								
PPOLG_LIVV8	GENOME POLYPYPTHEIN	PPOLG_LIVV8	GENOME POLYPYPTHEIN	LANGAT VIRUS (STRAIN TP21)	2798-2814								
PPOLG_LIVV9	GENOME POLYPYPTHEIN	PPOLG_LIVV9	GENOME POLYPYPTHEIN	LANGAT VIRUS (STRAIN YELANTSEV)	2366-2387								
PPOLG_LIVV10	GENOME POLYPYPTHEIN	PPOLG_LIVV10	GENOME POLYPYPTHEIN	LOUPING ILL VIRUS (LI)	67-89								
PPOLG_LIVV11	GENOME POLYPYPTHEIN	PPOLG_LIVV11	GENOME POLYPYPTHEIN	LOUPING ILL VIRUS (STRAIN SB 526)	67-89								
PPOLG_LIVV12	GENOME POLYPYPTHEIN	PPOLG_LIVV12	GENOME POLYPYPTHEIN	MOSQUITO CELL FUSING AGENT (CFA FLAVIVIRUS)	247-271								
PPOLG_LIVV13	GENOME POLYPYPTHEIN	PPOLG_LIVV13	GENOME POLYPYPTHEIN	MAIZE DWARF MOSAIC VIRUS	120-137								
PPOLG_LIVV14	GENOME POLYPYPTHEIN	PPOLG_LIVV14	GENOME POLYPYPTHEIN	MURRAY VALLEY ENCEPHALITIS VIRUS	39-56								
PPOLG_LIVV15	GENOME POLYPYPTHEIN	PPOLG_LIVV15	GENOME POLYPYPTHEIN	ORINITHOGALLUM MOSAIC VIRUS	331-347								
PPOLG_LIVV16	GENOME POLYPYPTHEIN	PPOLG_LIVV16	GENOME POLYPYPTHEIN	PEPPER MOTTLE VIRUS (CALIFORNIA ISOLATE)	90-110								
PPOLG_LIVV17	GENOME POLYPYPTHEIN	PPOLG_LIVV17	GENOME POLYPYPTHEIN	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	690-717								
PPOLG_LIVV18	GENOME POLYPYPTHEIN	PPOLG_LIVV18	GENOME POLYPYPTHEIN	POLIOVIRUS TYPE 1 (STRAIN SABIN)	1409-1432								
PPOLG_LIVV19	GENOME POLYPYPTHEIN	PPOLG_LIVV19	GENOME POLYPYPTHEIN	POLIOVIRUS TYPE 2 (STRAIN W-2)	1410-1433								
PPOLG_LIVV20	GENOME POLYPYPTHEIN	PPOLG_LIVV20	GENOME POLYPYPTHEIN	POLIOVIRUS TYPE 3 (STRAIN 1217)	1408-1431								
PPOLG_LIVV21	GENOME POLYPYPTHEIN	PPOLG_LIVV21	GENOME POLYPYPTHEIN	POLIOVIRUS TYPE 3 (STRAIN PILEON7 AND PILEON 12A(1)B)	577-594								
PPOLG_LIVV22	GENOME POLYPYPTHEIN	PPOLG_LIVV22	GENOME POLYPYPTHEIN	PLUM POX POTYVIRUS (STRAIN D)	577-594								
PPOLG_LIVV23	GENOME POLYPYPTHEIN	PPOLG_LIVV23	GENOME POLYPYPTHEIN	PLUM POX POTYVIRUS (STRAIN EL AMAR)	153-178								
PPOLG_LIVV24	GENOME POLYPYPTHEIN	PPOLG_LIVV24	GENOME POLYPYPTHEIN	PLUM POX POTYVIRUS (ISOLATE NAT)	981-999								
PPOLG_LIVV25	GENOME POLYPYPTHEIN	PPOLG_LIVV25	GENOME POLYPYPTHEIN	PAPAYA RINGSPOOT VIRUS (STRAIN P / MUTANT HA 5-1)	153-178								
PPOLG_LIVV26	GENOME POLYPYPTHEIN	PPOLG_LIVV26	GENOME POLYPYPTHEIN	PAPAYA RINGSPOOT VIRUS (STRAIN W)	153-178								
PPOLG_LIVV27	GENOME POLYPYPTHEIN	PPOLG_LIVV27	GENOME POLYPYPTHEIN	PEA SEED-BORNE MOSAIC VIRUS (STRAIN DPD1)	272-290								
PPOLG_LIVV28	GENOME POLYPYPTHEIN	PPOLG_LIVV28	GENOME POLYPYPTHEIN	POTATO VIRUS Y (STRAIN C)	163-181								
PPOLG_LIVV29	GENOME POLYPYPTHEIN	PPOLG_LIVV29	GENOME POLYPYPTHEIN	POTATO VIRUS Y (STRAIN HUNGARIAN)	163-181								
PPOLG_LIVV30	GENOME POLYPYPTHEIN	PPOLG_LIVV30	GENOME POLYPYPTHEIN	POTATO VIRUS Y (STRAIN N)	47-62								
PPOLG_LIVV31	GENOME POLYPYPTHEIN	PPOLG_LIVV31	GENOME POLYPYPTHEIN	POTATO VIRUS Y (STRAIN O)	755-776								
PPOLG_LIVV32	GENOME POLYPYPTHEIN	PPOLG_LIVV32	GENOME POLYPYPTHEIN	PARSNIP YELLOW FLECK VIRUS (ISOLATE P-121)	755-776								
PPOLG_LIVV33	GENOME POLYPYPTHEIN	PPOLG_LIVV33	GENOME POLYPYPTHEIN	ST LOUIS ENCEPHALITIS VIRUS (STRAIN MS1-7)	592-616								
PPOLG_LIVV34	GENOME POLYPYPTHEIN	PPOLG_LIVV34	GENOME POLYPYPTHEIN	SUGARCANE MOSAIC VIRUS (STRAIN SC)	1301-1324								
PPOLG_LIVV35	GENOME POLYPYPTHEIN	PPOLG_LIVV35	GENOME POLYPYPTHEIN	SWINE VESICULAR DISEASE VIRUS (STRAIN H3 76)	39-56								
PPOLG_LIVV36	GENOME POLYPYPTHEIN	PPOLG_LIVV36	GENOME POLYPYPTHEIN	SWINE VESICULAR DISEASE VIRUS (STRAIN UKG27772)	1475-1501								
PPOLG_LIVV37	GENOME POLYPYPTHEIN	PPOLG_LIVV37	GENOME POLYPYPTHEIN	TICK-BORNE ENCEPHALITIS VIRUS (STRAIN SOFIN)	1475-1501								
PPOLG_LIVV38	GENOME POLYPYPTHEIN	PPOLG_LIVV38	GENOME POLYPYPTHEIN	TICK-BORNE ENCEPHALITIS VIRUS (WESTERN SUBTYPE)	67-89								
PPOLG_LIVV39	GENOME POLYPYPTHEIN	PPOLG_LIVV39	GENOME POLYPYPTHEIN	TOBACCO ETCH VIRUS (TEV)	827-853								
PPOLG_LIVV40	GENOME POLYPYPTHEIN	PPOLG_LIVV40	GENOME POLYPYPTHEIN	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN BEAN 8386)	924-941								
PPOLG_LIVV41	GENOME POLYPYPTHEIN	PPOLG_LIVV41	GENOME POLYPYPTHEIN	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN DA)	1072-1093								
PPOLG_LIVV42	GENOME POLYPYPTHEIN	PPOLG_LIVV42	GENOME POLYPYPTHEIN	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN GDVII)	645-670								
PPOLG_LIVV43	GENOME POLYPYPTHEIN	PPOLG_LIVV43	GENOME POLYPYPTHEIN	TUNIP MOSAIC VIRUS	21-39								
PPOLG_LIVV44	GENOME POLYPYPTHEIN	PPOLG_LIVV44	GENOME POLYPYPTHEIN	TOBACCO VEIN MOTTLE VIRUS	404-428								
PPOLG_LIVV45	GENOME POLYPYPTHEIN	PPOLG_LIVV45	GENOME POLYPYPTHEIN	WEST NILE VIRUS	198-218								
PPOLG_LIVV46	GENOME POLYPYPTHEIN	PPOLG_LIVV46	GENOME POLYPYPTHEIN	YELLOW FEVER VIRUS (STRAIN 17D)	557-572								
PPOLG_LIVV47	GENOME POLYPYPTHEIN	PPOLG_LIVV47	GENOME POLYPYPTHEIN	YELLOW FEVER VIRUS (STRAIN PASTEUR 17D-204)	74-95								
PPOLG_LIVV48	GENOME POLYPYPTHEIN	PPOLG_LIVV48	GENOME POLYPYPTHEIN	YELLOW FEVER VIRUS (STRAIN MAHONEY)	74-95								
PPOLG_LIVV49	GENOME POLYPYPTHEIN	PPOLG_LIVV49	GENOME POLYPYPTHEIN	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	1410-1433								
PPOLG_LIVV50	NONSTRUCTURAL POLYPYPTHEIN	PPOLG_LIVV50	NONSTRUCTURAL POLYPYPTHEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD DON 90-107)	235-254								

PCGENE	PICTLZIP	ALL Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS									
PPOLN_FCV6	NON-STRUCTURAL POLYPROTEIN	FELINE CALCIVIRUS (STRAIN CF168 FIV)	443-469	748-766	902-923	1069-1088					
PPOLN_FCV4	NON-STRUCTURAL POLYPROTEIN	FELINE CALCIVIRUS (STRAIN JAPANESE F4)	300-326								
PPOLN_FCV9	NON-STRUCTURAL POLYPROTEIN	FELINE CALCIVIRUS (STRAIN F9)	171-186	262-283	919-945	1224-1242	1378-1399	1545-1564			
PPOLN_HEVB	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN BURMA)	250-266	1274-1291							
PPOLN_HEVME	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN MEXICO)	250-266	1272-1289							
PPOLN_HEVMY	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN MYANMAR)	250-266	1274-1291							
PPOLN_HEVPA	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN PAKISTAN)	249-265	1273-1290							
PPOLN_MDDV	NON-STRUCTURAL POLYPROTEIN	MIDDELBOURG VIRUS	488-512	628-643	700-720						
PPOLN_ONNVG	NON-STRUCTURAL POLYPROTEIN	ONYONG-NYONG VIRUS (STRAIN GULU)	90-107	613-634	2148-2163	2220-2240					
PPOLN_RHDV3	NON-STRUCTURAL POLYPROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS	156-180	270-292	209-220	479-502	1310-1333	1420-1455	1471-1490		
PPOLN_RRVN	NON-STRUCTURAL POLYPROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS (STRAIN V-351)	115-135								
PPOLN_RRVN	NON-STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN NB-592)	89-106	611-632	2113-2128	2185-2205					
PPOLN_RRVN	NON-STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48)	782-797	854-874							
PPOLN_RUBVT	NON-STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN THIERIEN)	14-37	97-113	263-279	670-694	901-918	1374-1393	2035-2052		
PPOLN_SFV	NON-STRUCTURAL POLYPROTEIN	SEMLIKI FOREST VIRUS	91-108	617-643	2062-2077	2134-2154					
PPOLN_SINDO	NON-STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDNIIYN R2-5)	620-646	1123-1150	1790-1814	2148-2163	2220-2240				
PPOLN_SINDV	NON-STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (STRAIN HNSP)	620-646	1123-1150	1744-1763	1790-1812	2146-2161	2218-2238			
PPOLN_ERMV	RNA REPLICASE POLYPROTEIN	EGGPLANT MOSAIC VIRUS	808-833								
PPOLN_OYMY	RNA REPLICASE POLYPROTEIN	ONONIS YELLOW MOSAIC VIRUS	707-727	941-962							
PPOLN_TMYV	RNA REPLICASE POLYPROTEIN	TURNIP YELLOW MOSAIC VIRUS	212-233	436-453	1173-1192						
PPOLN_TMYV	RNA REPLICASE POLYPROTEIN	TURNIP YELLOW MOSAIC VIRUS (AUSTRALIAN ISOLATE)	212-233	436-453	1173-1192						
PPOLN_TMYV	RNA REPLICASE POLYPROTEIN	TURNIP YELLOW MOSAIC VIRUS (ISOLATE TYMC)	212-233	436-453	1173-1192						
PPOLN_EEEV	STRUCTURAL POLYPROTEIN	EASTERN EQUINE ENCEPHALITIS VIRUS	35-50	213-229	491-507						
PPOLN_EEEV	STRUCTURAL POLYPROTEIN	EASTERN EQUINE ENCEPHALITIS VIRUS	35-50	214-230	492-508						
PPOLN_EEEV	STRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TC-83)	32-48	229-245	504-522						
PPOLN_EEEV	STRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD DON)	32-48	229-245	504-522						
PPOLN_IBDVA	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN 5270)	900-922								
PPOLN_IBDVC	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN AUSTRALIAN 06)	900-922								
PPOLN_IBDVC	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN CU-1)	900-922								
PPOLN_IBDVC	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN PUG-98)	881-903								
PPOLN_IBDVC	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN STC)	900-922								
PPOLN_IBDVC	STRUCTURAL POLYPROTEIN	ONYONG-NYONG VIRUS (STRAIN GULU)	688-708								
PPOLN_RRVN	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48)	1216-1243								
PPOLN_RUBVH	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (VACCINE STRAIN HPV77)	281-302								
PPOLN_RUBVM	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN M33)	280-301								
PPOLN_RUBVR	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (VACCINE STRAIN RA273)	281-302								
PPOLN_RUBVT	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN THIERIEN)	281-302	1041-1060							
PPOLN_SFV	STRUCTURAL POLYPROTEIN	SEMLIKI FOREST VIRUS	35-59	751-772	780-801						
PPOLN_SINDO	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 82-5)	33-52								
PPOLN_SINDV	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (STRAINS HSP AND HRP)	33-52								
PPOLN_WEEV	STRUCTURAL POLYPROTEIN	WESTERN EQUINE ENCEPHALITIS VIRUS	36-51	909-933							
PPOLN_BAEMV	POL POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN M7)	526-544	973-993	999-1019	1070-1091					
PPOLN_BIV6	POL POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	101-119	742-768	868-889						
PPOLN_BIV7	POL POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	101-119	742-768	868-889						
PPOLN_BIV8	POL POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	487-504								
PPOLN_BIV9	POL POLYPROTEIN (REVERSE TRANSCRIPTASE)	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	487-504								
PPOLN_CAEVC	POL POLYPROTEIN	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	393-419	656-671							
PPOLN_CAEVC	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	184-204	380-407	471-494						
PPOLN_CAEVC	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/H)	175-199	375-402	466-489						
PPOLN_CAEVC	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BB/C)	184-204	380-407	471-494						
PPOLN_CAEVC	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY815)	70-97	185-205	381-408	472-495					
PPOLN_CAEVC	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	184-204	380-407	471-494						
PPOLN_CAEVC	ENZYMATIC POLYPROTEIN	CARNATION ETCHED RING VIRUS	161-186	455-478							
PPOLN_CAEVC	PUTATIVE POLYPROTEIN	COMELINA YELLOW MOTTLE VIRUS	320-343	1286-1311	1606-1622	1641-1665					
PPOLN_EIAV9	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1369)	437-456								
PPOLN_EIAVC	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22)	437-456								

PCGENE	PICTLZIP	All Viruses (No Bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PPOL_EIAYV	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	436-455								
PPOL_FENV1	POL POLYPROTEIN	FELINE ENDOGENOUS VIRUS ECE1	383-401	836-876							
PPOL_FIVPE	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PIETALUMA)	407-426	735-775							
PPOL_FIVSD	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	407-426	735-775							
PPOL_FIVT2	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE TAZ)	406-425	665-690	755-775	1041-1060					
PPOL_FMYD	ENZYMATIC POLYPROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	191-212	464-487							
PPOL_FOAMV	POL POLYPROTEIN	HUMAN SPONARETROVIRUS	126-147	768-788							
PPOL_GALV	POL POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	59-80	971-991	1048-1071						
PPOL_HTL1A	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	330-346								
PPOL_HTL1C	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE)	310-346								
PPOL_HTL1V2	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE II	609-627								
PPOL_HV1A2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ARV2SF2 ISOLATE)	860-887								
PPOL_HV1B1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ARV2SF2 ISOLATE)	635-660	872-899							
PPOL_HV1B3	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BHI0 ISOLATE)	872-899								
PPOL_HV1BR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BHS ISOLATE)	872-899								
PPOL_HV1EL	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BRU ISOLATE)	622-647	859-886							
PPOL_HV1H2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ELI ISOLATE)	622-647								
PPOL_HV1JR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HXB2 ISOLATE)	860-887								
PPOL_HV1MA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (JRC5F ISOLATE)	864-891								
PPOL_HV1MN	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (MAL ISOLATE)	859-886								
PPOL_HV1ND	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (MN ISOLATE)	863-890								
PPOL_HV1ND	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (NEW YORK-5 ISOLATE)	621-648	860-887							
PPOL_HV1ND	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (NDK ISOLATE)	622-647	859-886							
PPOL_HV1OY	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (OVI ISOLATE)	860-887								
PPOL_HV1PV	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (PV22 ISOLATE)	635-660	872-899							
PPOL_HV1RH	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (RPHAT ISOLATE)	859-886								
PPOL_HV1U4	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (STRAN UGANDAN / ISO	622-647	859-886							
PPOL_HV1Z2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (Z2/CDC-234 ISOLATE)	622-647	859-886							
PPOL_HV1Z6	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ZAIKE 6 ISOLATE)	5-32								
PPOL_HV2BE	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	379-406	907-934							
PPOL_HV2CA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	886-913								
PPOL_HV2DI	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	397-424	935-952							
PPOL_HV2D2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7)	907-934								
PPOL_HV2G1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	359-386	887-914							
PPOL_HV2HZ	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-2)	543-564	771-792	887-914						
PPOL_HV2RO	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	888-915								
PPOL_HV2SB	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBLISY)	359-386	887-907							
PPOL_HV2ST	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	379-406	907-934							
PPOL_IPHA	PUTATIVE POL POLYPROTEIN	HAMSTER INTRACISTERNAL A-PARTICLE	166-190	198-225	460-477						
PPOL_IPMA	PUTATIVE POL POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	183-201	209-236	506-523	531-552	768-789				
PPOL_IPMAJ	PROBABLE POL POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	102-120	128-155	407-423	425-442					
PPOL_JSRV	POL POLYPROTEIN	SHEEP PULMONARY ADENOMATOSIS VIRUS (JAAGSIEKTE SHEEP RETI	186-213	507-526	660-679						
PPOL_MCF3	POL POLYPROTEIN	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS (ISOLATE CH	37-53								
PPOL_MLVAK	POL POLYPROTEIN	ACK MURINE LEUKEMIA VIRUS	651-671	728-744							
PPOL_MLVAV	POL POLYPROTEIN	ACK MURINE LEUKEMIA VIRUS	313-354	978-998	1004-1024	1081-1097					
PPOL_MLVCB	POL POLYPROTEIN	CAS-BR-E MURINE LEUKEMIA VIRUS	64-84	90-110	167-183						
PPOL_MLVF3	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE 57)	340-359	983-1003	1009-1029	1086-1102					
PPOL_MLVF6	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)	340-359	983-1003	1009-1029	1086-1102					
PPOL_MLVFP	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE PVC-211)	340-359	983-1003	1009-1029	1086-1102					
PPOL_MLVMO	POL POLYPROTEIN	MOLONEY MURINE LEUKEMIA VIRUS	313-354	978-998							
PPOL_MLVRO	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	335-354	978-998	1004-1024	1081-1097					
PPOL_MLVVK	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	363-383	389-409	466-482						
PPOL_MMATVB	POL POLYPROTEIN	MAMMARY TUMOR VIRUS (STRAIN BR6)	196-219	711-751							
PPOL_MPAPV	POL POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	743-763								
PPOL_OMVVS	POL POLYPROTEIN	OVINE LENTIVIRUS (STRAIN SA-OMVV)	369-395	469-488	1045-1063						
PPOL_RSPV	POL POLYPROTEIN	ROUS SARCOMA VIRUS (STRAIN PRAGUE C)	719-742								
PPOL_RTBV	POL POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS (RTBV)	891-915	1058-1083							
PPOL_RTBVP	POL POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	891-915	1058-1083							

PCGENE	PICTLZIP	ALL Viruses (No Bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PTAT_HV104	TAT PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDA-1/ISO 18-43)	18-43								
PTCB_FLV	T-CELL RECEPTOR BETA CHAIN PRECURSOR	FELINE LEUKEMIA VIRUS	6-22	98-118							
PTGP_HSVB	PROBABLE TEGUMENT PHOSPHOPROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	101-118								
PTGP_HSVK	TEGUMENT PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	101-118								
PTGU_EBV	LARGE TEGUMENT PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	143-166	767-789	814-835	1032-1075	1194-1220	1469-1496	1869-1893	3061-3077	3102-3126
PTGU_HCMVA	PROBABLE LARGE TEGUMENT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	342-358	644-668	1061-1077	1307-1322	1323-1345	1419-1446	1509-1536	1957-1974	2199-2221
PTGU_HSV11	LARGE TEGUMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	12-27	623-646	1731-1759						
PTGU_HSVAG	LARGE TEGUMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	131-152	345-365	615-636	1027-1043	1308-1328	1562-1579			
PTGU_HSVB	LARGE TEGUMENT PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	432-456	559-582	1072-1099	1107-1132	1618-1640	1764-1791	2263-2285		
PTGU_HSVSA	PROBABLE LARGE TEGUMENT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	467-491	714-737	989-1008	1121-1137	1155-1174	1177-1193	1503-1525	1607-1622	1898-1915
PTGU_VZVD	LARGE TEGUMENT PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	2421-2439	494-511	711-728	801-823	895-920	1013-1034	1360-1376	1632-1657	1780-1807
PTERM_ADE02	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 2	2008-2029	2270-2287	2694-2711						
PTERM_ADE05	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 3	63-80	593-616							
PTERM_ADE07	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 7	63-80	580-603							
PTERM_ADE12	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 12	46-63	334-350	546-569						
PTOP2_ASF07	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	119-146	686-707							
PTOP2_ASF02	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (ISOLATE MALAWI LIL 20/1)	119-146	685-706							
PTRI4_HCMVA	HYPOTHETICAL PROTEIN TRI4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	139-165								
PTREL_AVIRE	REL TRANSFORMING PROTEIN	AVIAN RETICULOENDOTHELIOIS VIRUS	56-74								
PTYSY_VZVD	THYMIDYLATE SYNTHASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	11-29								
PULR_HSV6U	POSSIBLE GANCILOVIR KINASE	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	400-415								
PULZ_HSV6U	PROTEIN 2L	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	4-27								
PUDPE_NPVAC	UDP-GLUCOSYL TRANSFERASE PRECURSOR	AUTOGRAHA CALIFORNICA NUCLEAR POLYDIOROSIS VIRUS	432-477								
PUL02_HCMVA	HYPOTHETICAL PROTEIN UL2	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	23-49								
PUL03_HCMVA	HYPOTHETICAL PROTEIN UL3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	11-37								
PUL06_EBV	VIRION PROTEIN BBF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	233-268								
PUL06_HCMVA	HYPOTHETICAL PROTEIN UL6	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	191-208								
PUL06_HSV11	VIRION PROTEIN UL6	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	404-429								
PUL06_HSVB	VIRION GENE 56 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	437-461								
PUL06_HSVSA	VIRION GENE 43 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	44-60								
PUL07_EBV	BBF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	127-149								
PUL07_HCMVA	HYPOTHETICAL PROTEIN UL7	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	88-108	186-209							
PUL07_HSV11	PROTEIN UL7	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	177-200								
PUL07_HSVB	GENE 53 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	11-32								
PUL07_HSVSA	GENE 42 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	44-61								
PUL07_VZVD	GENE 53 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	158-176	202-224							
PUL08_HSV11	PROTEIN UL8	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	514-538	705-726							
PUL08_VZVD	GENE 52 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	228-255	593-616							
PUL09_HSV11	ORIGIN OF REPLICATION BINDING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	564-584								
PUL09_HSVB	ORIGIN OF REPLICATION BINDING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	171-196	612-628							
PUL09_VZVD	ORIGIN OF REPLICATION BINDING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	68-92	168-190	484-508						
PUL11_HCMVA	HYPOTHETICAL PROTEIN UL11	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	223-247								
PUL13_HCMVA	HYPOTHETICAL PROTEIN UL13	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	449-467								
PUL14_HCMVA	HYPOTHETICAL PROTEIN UL14	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	280-299								
PUL14_HSV11	HYPOTHETICAL UL14 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	96-116								
PUL14_HSVB	HYPOTHETICAL GENE 48 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	100-127								
PUL16_HSV11	PROTEIN UL16	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	22-49								
PUL16_HSVB	GENE 46 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	26-43	98-119	324-339						
PUL16_HSVSA	GENE 33 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	69-87	278-295							
PUL16_VZVD	GENE 44 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	65-80	317-332							
PUL17_EBV	PROTEIN BGLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	373-393								
PUL17_HCMVA	HYPOTHETICAL PROTEIN UL17	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	60-82								
PUL17_HSV11	PROTEIN UL17	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	156-181								
PUL17_HSVSA	GENE 32 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	94-118	348-370							
PUL19_HCMVA	HYPOTHETICAL PROTEIN UL19	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	61-85								

PCGENE	P12CLZIP	ALL Viruses (No Bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PUL20 PVN3	UL20 MEMBRANE PROTEIN HOMOLOG	PSEUDORABIES VIRUS (STRAIN NIA-3)	54-76								
PUL20 VZVD	GENE 39 MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	201-224								
PUL21 HCMVA	HYPOTHETICAL PROTEIN UL21	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	91-110								
PUL21 HSV11	PROTEIN UL21	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	98-114	130-146							
PUL21 HSV1E	PROTEIN UL21	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN HFEM)	98-114	130-146							
PUL21 HSVEB	GENE 40 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	119-142	294-321	379-403	412-427					
PUL21 VZVD	GENE 38 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	270-293	300-327							
PUL22 HCMVA	HYPOTHETICAL PROTEIN UL22	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	44-67								
PUL24 EBV	PROTEIN BCRF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	134-155								
PUL24 HCMVA	HYPOTHETICAL PROTEIN UL24	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	206-222								
PUL24 HSV11	PROTEIN UL24	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	147-166								
PUL24 ULVT	PROTEIN UL24 HOMOLOG	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	158-179								
PUL25 HCMVA	HYPOTHETICAL PROTEIN UL25	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	484-500								
PUL25 HSV11	VIRION PROTEIN UL25	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	86-101								
PUL25 HSV1E	VIRION PROTEIN UL25	EQUINE HERPESVIRUS TYPE 1 (STRAIN A14P)	89-104	110-147							
PUL25 HSVSA	VIRION GENE 19 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	244-265	344-368							
PUL25 ULVT	641 KD VIRION PROTEIN	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	270-287	316-316							
PUL27 HCMVA	HYPOTHETICAL PROTEIN UL27	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	303-324	486-507							
PUL29 HCMVA	HYPOTHETICAL PROTEIN UL29	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	239-266								
PUL30 HCMVA	HYPOTHETICAL PROTEIN UL30	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	9-31								
PUL31 EBV	PROTEIN BFL2	EPSTEIN-BARR VIRUS (STRAIN B95-8)	273-296								
PUL31 HCMVA	HYPOTHETICAL PROTEIN UL31	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	410-437	582-602							
PUL31 HSV11	PROTEIN UL31	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	95-116								
PUL31 HSVSA	GENE 29 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	104-125	288-309							
PUL31 VZVD	GENE 27 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	145-161	163-190							
PUL32 HSV11	PROBABLE MAJOR ENV GLYCOPROTEIN 300	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	117-138	295-316							
PUL32 HSVEB	MAJOR ENVELOPE GLYCOPROTEIN 300	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	127-143	364-385							
PUL32 VZVD	PROBABLE MAJOR ENV GLYCOPROTEIN 26	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	81-108								
PUL33 HCMVA	G-PROTEIN COUPLED REC HOMOLOG UL33	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	553-574								
PUL34 HCMVA	HYPOTHETICAL PROTEIN UL34	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	76-102								
PUL34 HSV11	VIRION PROTEIN UL34	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	214-232	297-321							
PUL34 HSVEB	VIRION GENE 26 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	251-275								
PUL34 HSVSA	GENE 67 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	249-264								
PUL34 VZVD	VIRION GENE 24 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	207-229								
PUL35 HCMVA	HYPOTHETICAL PROTEIN UL35	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	244-266								
PUL36 HCMVA	HYPOTHETICAL PROTEIN UL36	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	228-252	310-329	331-348						
PUL37 EBV	PROTEIN BOLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	143-168	387-410							
PUL37 HSV11	PROTEIN UL37	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	21-36	135-155	707-730	984-1004					
PUL37 HSVEB	GENE 23 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	229-252	262-277	443-467	665-681	758-777	925-947	1009-1028		
PUL37 HSVSA	GENE 63 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	414-440	491-510	664-690	778-805	901-919				
PUL37 VZVD	GENE 21 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	5-20								
PUL38 HCMVA	HYPOTHETICAL PROTEIN UL38	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	4-19	104-124	140-165	168-191	196-212	229-244	248-269	670-694	776-803
PUL40 HCMVA	HYPOTHETICAL PROTEIN UL40	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	199-220								
PUL41 HCMVA	HYPOTHETICAL PROTEIN UL41	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	18-35								
PUL43 HSV11	MEMBRANE PROTEIN UL43	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	15-31	116-134							
PUL43 HSVEB	GENE 17 MEMBRANE PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	41-63	139-160	343-365	394-421					
PUL43 VZVD	GENE 15 MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	34-60	86-107							
PUL43 HSV11	PROTEIN UL43	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	88-114	121-146	160-180	277-299	374-400				
PUL43 HSV1K	PROTEIN UL43	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	25-46								
PUL43 HSVIM	PROTEIN UL43	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN MP)	25-46								
PUL47 HCMVA	PROTEIN UL47	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	25-46								
PUL47 HSV11	VIRION PROTEIN UL47	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	193-218	438-464	533-556	614-640	741-766				
PUL47 HSVIF	VIRION PROTEIN UL47	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	404-425								
PUL47 HSVBP	80.7 KD ALPHA TRANS-INDUCING PROTEIN	BOVINE HERPESVIRUS TYPE 1 (STRAIN P8-2)	404-425								
PUL47 HSVB4	97 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 4	580-601								

PCGENE	P12CLZIP	ALL Viruses (No Bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS									
PUL47_HSVB	97 KD ALPHA TRANS-INDUCING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN ABAP)	587-608								
PUL47_VZVD	ALPHA TRANS-INDUCING FACTOR 91 8 KD PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN B95-8)	42-58	608-627							
PUL49_EBV	HYPOTHETICAL BFRF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	336-358								
PUL49_HCMVA	HYPOTHETICAL PROTEIN UL49	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	248-264	528-543							
PUL49_HSV11	TEGUMENT PROTEIN UL49	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	226-252								
PUL49_HSVSA	HYPOTHETICAL GENE 66 PROTEIN	HERPES VIRUS SAMIRI (STRAIN 11)	232-253								
PUL50_HCMVA	PROTEIN UL50	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	96-119								
PUL51_HSV11	PROTEIN UL51	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	49-66								
PUL51_HSV4	GENE 8 PROTEIN	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	169-190								
PUL51_HSV11	GENE 8 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN ADI 69)	164-189								
PUL51_VZVD	GENE 7 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN B95-8)	30-49								
PUL52_EBV	PROBABLE DNA REPLICATION PROTEIN BSLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	44-59								
PUL52_HSV11	DNA REPLICATION PROTEIN UL52	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	17-37	65-91							
PUL52_HSV4	DNA REPLICATION PROTEIN UL52	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	8-27								
PUL52_HSVB	DNA REPLICATION PROTEIN UL52	EQUINE HERPESVIRUS TYPE 1 (STRAIN ADI 69)	8-27	115-159	116-117						
PUL52_HSVSA	PROBABLE DNA REPLICATION GENE 56 PROTEIN	HERPES VIRUS SAMIRI (STRAIN 11)	489-508	580-605							
PUL52_VZVD	PROBABLE DNA REPLICATION GENE 6 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN B95-8)	446-466	645-670							
PUL53_HCMVA	PROTEIN UL53	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	173-188								
PUL53_HSV6U	UL53 PROTEIN HOMOLOG	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	64-80								
PUL60_HCMVA	HYPOTHETICAL PROTEIN UL60	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	120-141								
PUL62_HCMVA	HYPOTHETICAL PROTEIN UL62	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	62-84	178-205							
PUL68_HCMVA	HYPOTHETICAL PROTEIN UL68	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	87-107								
PUL70_HCMVA	PROBABLE DNA REPLICATION PROTEIN UL70	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	225-252	409-430	499-514	626-645	770-793				
PUL71_HCMVA	HYPOTHETICAL PROTEIN UL71	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	234-250								
PUL73_EBV	HYPOTHETICAL BLRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	62-87								
PUL73_HSVSA	HYPOTHETICAL GENE 53 PROTEIN	HERPES VIRUS SAMIRI (STRAIN 11)	51-73								
PUL74_HCMVA	HYPOTHETICAL PROTEIN UL74	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	12-32								
PUL77_HCMVA	VIRION PROTEIN UL77	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	268-291	607-628							
PUL78_HCMVA	HYPOTHETICAL PROTEIN UL78	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	71-90	190-205							
PUL79_HCMVA	HYPOTHETICAL PROTEIN UL79	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	40-58								
PUL84_HCMVA	65 KD EARLY NONSTRUCTURAL PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	100-116								
PUL84_HCMVT	65 KD EARLY NONSTRUCTURAL PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	100-116								
PUL87_EBV	HYPOTHETICAL PROTEIN B(C)RF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	406-422	530-557							
PUL87_HCMVA	HYPOTHETICAL PROTEIN UL87	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	205-231	309-335	606-628	633-653	757-781				
PUL87_HSV6U	HYPOTHETICAL PROTEIN 5R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	301-322	507-529							
PUL87_HSVSA	HYPOTHETICAL GENE 24 PROTEIN	HERPES VIRUS SAMIRI (STRAIN 11)	365-387	402-422	579-595						
PUL88_HCMVA	HYPOTHETICAL PROTEIN UL88	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	173-191	252-279							
PUL88_HSV6U	HYPOTHETICAL PROTEIN 6R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	150-173								
PUL90_HCMVA	HYPOTHETICAL PROTEIN UL90	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	35-50								
PUL91_HSV6U	HYPOTHETICAL PROTEIN 8R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	43-65								
PUL92_HCMVA	HYPOTHETICAL PROTEIN UL92	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	76-99								
PUL92_HSV6U	HYPOTHETICAL PROTEIN 9R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	36-55	100-119							
PUL94_HCMVA	PROTEIN UL94	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	49-70								
PUL95_EBV	HYPOTHETICAL PROTEIN BGLF3	EPSTEIN-BARR VIRUS (STRAIN B95-8)	201-223								
PUL95_HCMVA	HYPOTHETICAL PROTEIN UL95	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	508-526								
PUL95_HSV6U	HYPOTHETICAL PROTEIN 13R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	9-30	328-346							
PUL95_HSVSA	HYPOTHETICAL GENE 34 PROTEIN	HERPES VIRUS SAMIRI (STRAIN 11)	187-209								
PUL97_HCMVA	GANCICLOVIR KINASE	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	208-228	541-567							
PUL97_HCMVA	HYPOTHETICAL PROTEIN UL102	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	168-183								
PUL97_HCMVA	PROTEIN UL103	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	26-47								
PUL98_HCMVA	VIRION PROTEIN UL104	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	215-235	423-450							
PUL98_HCMVA	HYPOTHETICAL PROTEIN UL108	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	93-118								
PUL98_HCMVA	HYPOTHETICAL PROTEIN UL111	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	60-81								
PUL98_HCMVA	HYPOTHETICAL PROTEIN UL113	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	298-319								
PUL97_HCMVA	HYPOTHETICAL PROTEIN UL117	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	178-195								
PUL98_HCMVA	HYPOTHETICAL PROTEIN UL118	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	103-130								
PUL97_HCMVA	HYPOTHETICAL PROTEIN UL121	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	129-153								

PGENE	PICT12IP	PROTEIN	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS										
PULD2_HCMVA	HYPOTHETICAL PROTEIN UL132	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		4-22								
PUNG_FOWPT	URACIL-DNA GLYCOSYLASE	FOWLPOX VIRUS (STRAIN PP-1)		12-37								
PUNG_HSVB	URACIL-DNA GLYCOSYLASE	HUMAN HERPESVIRUS TYPE 1 (STRAIN AB4P)		224-250								
PUNG_VACCC	URACIL-DNA GLYCOSYLASE	VACCINIA VIRUS (STRAIN COPENHAGEN)		82-103								
PUNG_VACCV	URACIL-DNA GLYCOSYLASE	VACCINIA VIRUS (STRAIN WR)		82-103								
PUNG_VARV	URACIL-DNA GLYCOSYLASE	VARIOLA VIRUS		82-103								
PUNG_VZVD	URACIL-DNA GLYCOSYLASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)		217-243								
PUS02_HSVB	GENE 68 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)		48-63								
PUS02_HSVK	US1 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)		48-63								
PUS02_PRYN3	PROTEIN US2 HOMOLOG	PSEUDORABIES VIRUS (STRAIN NIA-3)		120-136								
PUS03_HCMVA	HQLF1 PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		24-39								
PUS05_HSV11	PUTATIVE GLYCOPROTEIN US5	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)		53-70								
PUS05_HSV2	PUTATIVE GLYCOPROTEIN US5	HERPES SIMPLEX VIRUS (TYPE 2)		53-70								
PUS09_HCMVA	HYPOTHETICAL PROTEIN HXLF3	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		1179-206								
PUS11_HCMVA	HYPOTHETICAL PROTEIN HXLF1	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		98-113								
PUS12_HCMVA	HYPOTHETICAL PROTEIN HXLF6	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		29-50	113-135	195-222						
PUS13_HCMVA	HYPOTHETICAL PROTEIN HXLF5	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		11-33	208-231							
PUS14_HCMVA	HYPOTHETICAL PROTEIN HXLF4	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		236-260								
PUS15_HCMVA	HYPOTHETICAL PROTEIN HXLF3	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		378-402	443-466							
PUS16_HCMVA	HYPOTHETICAL PROTEIN HXLF2	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		151-174	243-267							
PUS17_HCMVA	HYPOTHETICAL PROTEIN HXLF1	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		110-126								
PUS19_HCMVA	MEMBRANE PROTEIN HXLF4	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		120-142	178-202	214-232						
PUS21_HCMVA	HYPOTHETICAL PROTEIN HXLF2	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		41-67	155-182							
PUS22_HCMVA	EARLY NUCLEAR PROTEIN HXLF1	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		270-292								
PUS23_HCMVA	HYPOTHETICAL PROTEIN HXLF7	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		292-310								
PUS24_HCMVA	HYPOTHETICAL PROTEIN HXLF6	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		352-373								
PUS28_HCMVA	G-PROTEIN COUPLED REC HOMOLOG US28	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		34-49	140-160							
PUS28_HCMVT	G-PROTEIN COUPLED REC HOMOLOG US28	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)		34-49	140-160							
PUS29_HCMVA	HYPOTHETICAL PROTEIN HXRF4	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		246-269								
PUS30_HCMVA	HYPOTHETICAL PROTEIN HXRF5	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		102-128	208-233							
PUS33_HCMVA	HYPOTHETICAL PROTEIN HXLF3	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)		41-59								
PV07K_LSV	7 KD PROTEIN	LILY SYMPTOMLESS VIRUS		27-46								
PV07K_NMV	7 KD PROTEIN	POTATO VIRUS S (STRAIN PERUVIAN)		28-49								
PV07K_PVSP	7 KD PROTEIN	POTATO VIRUS X (PVX)		31-48								
PV07K_PVX	7 KD PROTEIN	POTATO VIRUS X (STRAIN X3)		31-48								
PV07K_PVXG	7 KD PROTEIN	POTATO VIRUS X (STRAIN XC) (STRAIN CP)		31-48								
PV117_ASFL3	LIS 121-1 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN LIS57)		73-94								
PV121_ASFL3	125 KD PROTEIN	ALFALEA MOSAIC VIRUS (STRAIN 425 / ISOLATE LEIDEN)		59-79								
PV12K_PVNR	12 KD PROTEIN	POTATO VIRUS M (STRAIN RUSSIAN)		79-96								
PV13K_TRVPL	16 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN PLB)		24-51								
PV143_NPVAC	HELICASE	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS		79-102	846-863	1013-1037						
PV14K_BSMV	14 KD PROTEIN	BARLEY STRIPE MOSAIC VIRUS (BSMV)		14-29	80-99							
PV14K_MLVAB	18 KD PROTEIN	ABELSON MURINE LEUKEMIA VIRUS		29-44	128-154							
PV19R_VACCV	PROTEIN B19	VACCINIA VIRUS (STRAIN WR)		114-132	152-172							
PV1A_BBMV	1A PROTEIN	BROAD BEAN MOTTLE VIRUS		196-220	752-771							
PV1A_BMV	1A PROTEIN	BROME MOSAIC VIRUS		747-767								
PV1A_CCMV	1A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS		744-763								
PV1A_CAVFN	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)		775-800								
PV1A_CAVO	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN O)		775-800								
PV1A_CAVQ	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)		774-799								
PV1A_PSVI	1A PROTEIN	PEANUT STUNT VIRUS (STRAIN J)		472-493	783-808							
PV23K_HSVTH	23 5 KD PROTEIN	TURKEY HERPESVIRUS (STRAIN H2)		176-191								
PV28K_PLRV1	28 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN I)		60-76	192-207							
PV28K_PLRVW	28 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)		60-76	192-207							
PV29K_BWYVF	29 KD PROTEIN	BEEET WESTERN YELLOW VIRUS (ISOLATE FL-1)		22-43	136-157							
PV29K_PEBV	29 6 KD PROTEIN	PEA EARLY BROWNING VIRUS		114-132								
PV2A_BMV	2A PROTEIN	BROME MOSAIC VIRUS		285-303	759-777							

PCGENE	P12CTL2IP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PV2A_CCMV	2A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	296-314								
PV2A_TAV	2A PROTEIN	TOMATO ASPERMV VIRUS	234-235								
PV30K_TRVTC	29 I KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	62-82								
PV31K_TOBSV	31 7 KD PROTEIN	TOBACCO STREAK VIRUS (STRAIN WC)	226-230								
PV31K_TOBSV	K362 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	145-164								
PV37S_ASL3	LIS 37S PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN LIS57)	114-135								
PV382_ASL3	LIS 382 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN LIS57)	114-135								
PV3A_CCMV	COWPEA CHLOROTIC MOTTLE VIRUS		160-187								
PV3A_CMYN	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	214-235								
PV3A_CMYM	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN M)	214-235								
PV3A_CMYO	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN O)	214-235								
PV3A_CMYQ	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)	214-235								
PV3A_CMYV	CUCUMBER MOSAIC VIRUS (STRAIN Y)		214-235								
PV3A_IBVB	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	5-28								
PV3A_IBVM	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN M41)	5-28								
PV3A_IBVP3	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN PORTUGAL/022/82)	5-28								
PV3A_IBVUS	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN UK/183/66)	5-28								
PV3A_TAV	3A PROTEIN	TOMATO ASPERMV VIRUS	147-168								
PV58K_BSMV	38 KD PROTEIN	BARLEY STRIPE MOSAIC VIRUS	320-340								
PV68K_BWYVF	PROTEIN 68	CANINE ENTERIC CORONA VIRUS (STRAIN K278)	97-116								
PV70K_TYMYA	69 KD PROTEIN	TURNIP YELLOW MOSAIC VIRUS (AUSTRALIAN ISOLATE)	12-35								
PV90K_AMYLE	90 KD PROTEIN	ALFA MOSAIC VIRUS (STRAIN 435 / ISOLATE LEIDEN)	44-59								
PV404_VACCC	PROTEIN A4	VACCINIA VIRUS (STRAIN COPENHAGEN)	217-244								
PV404_VACCV	PROTEIN A4	VACCINIA VIRUS (STRAIN WR)	217-244								
PV404_VARV	PROTEIN A4	VARIOLA VIRUS	207-234								
PV409_VACCC	PROTEIN A9	VACCINIA VIRUS (STRAIN COPENHAGEN)	41-66								
PV409_VARV	PROTEIN A9	VARIOLA VIRUS	41-66								
PV411_VACCC	PROTEIN A11	VACCINIA VIRUS (STRAIN COPENHAGEN)	23-44	140-159	299-317						
PV411_VARV	PROTEIN A11	VARIOLA VIRUS	23-44	141-160	300-318						
PV414_VACCC	PROTEIN A14	VACCINIA VIRUS (STRAIN COPENHAGEN)	39-62								
PV414_VARV	PROTEIN A14	VARIOLA VIRUS	39-62								
PV416_VACCC	PROTEIN A16	VACCINIA VIRUS (STRAIN COPENHAGEN)	341-362								
PV416_VARV	PROTEIN A16	VARIOLA VIRUS	340-361								
PV418_VACCC	56 KD ABORTIVE LATE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	429-447								
PV418_VACCV	56 KD ABORTIVE LATE PROTEIN	VACCINIA VIRUS (STRAIN WR)	429-447								
PV418_VARV	56 KD ABORTIVE LATE PROTEIN	VARIOLA VIRUS	429-447								
PV420_VACCC	PROTEIN A20	VACCINIA VIRUS (STRAIN COPENHAGEN)	107-131	193-209							
PV420_VARV	PROTEIN A20	VARIOLA VIRUS	107-131	193-209							
PV428_VACCV	PROTEIN A28	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	58-82								
PV428_VARV	PROTEIN A28	VARIOLA VIRUS	53-76								
PV432_VACCV	PROTEIN A32	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	205-220								
PV432_VARV	PROTEIN A32	VARIOLA VIRUS	175-190								
PV435_VACCC	PROTEIN A35 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	33-49	141-164							
PV435_VACCV	PROTEIN A35 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	33-49								
PV437_VACCC	PROTEIN A37	VACCINIA VIRUS (STRAIN COPENHAGEN)	166-90								
PV437_VACCV	PROTEIN A37	VACCINIA VIRUS (STRAIN WR)	66-90								
PV440_VACCC	PROTEIN A40	VACCINIA VIRUS (STRAIN COPENHAGEN)	4-30								
PV441_VACCC	PROTEIN A41 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	47-71								
PV441_VACCV	PROTEIN A41 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	47-71								
PV441_VARV	PROTEIN A41 PRECURSOR	VARIOLA VIRUS	47-71								
PV447_VACCC	PROTEIN A47	VACCINIA VIRUS (STRAIN COPENHAGEN)	59-79	201-226							
PV447_VACCV	PROTEIN A47	VACCINIA VIRUS (STRAIN WR)	59-79	201-226							
PV447_VARV	PROTEIN A47	VARIOLA VIRUS	59-79	201-226							
PV455_VACCC	PROTEIN A55	VACCINIA VIRUS (STRAIN COPENHAGEN)	247-266	384-404							
PV455_VACCV	PROTEIN A55	VACCINIA VIRUS (STRAIN WR)	247-266	384-404							
PV455_VARV	PROTEIN A55	BEEF CURLY TOP VIRUS	156-75								

PCGENE	PICTLZIP	FILE NAME	PROTEIN	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PVCA1	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	668-684	842-860	871-893						
PVCA2	PROTEIN	MAJOR CAPSID PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 STRAIN 17)	283-302	358-384	1137-1152						
PVCA3	PROTEIN	MAJOR CAPSID PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	357-383	872-898							
PVCA4	PROTEIN	MAJOR CAPSID PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	144-168	269-287	357-372	1002-1089					
PVCA5	PROTEIN	MAJOR CAPSID PROTEIN	PSEUDORABIES VIRUS (STRAIN INDIANA S)	335-362								
PVCA6	PROTEIN	MAJOR CAPSID PROTEIN	VARIOLA-ZOSTER VIRUS (STRAIN DUNIAS)	381-401	891-910	1156-1176						
PVCA7	PROTEIN	MAJOR CAPSID PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	60-81								
PVCA8	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	12-39								
PVCA9	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN WR)	12-39								
PVCA10	PROTEIN	MAJOR CAPSID PROTEIN	VARIOLA VIRUS	12-39								
PVCA11	PROTEIN	MAJOR CAPSID PROTEIN	FOWLPOX VIRUS (STRAIN FP-1)	246-265	315-337							
PVCA12	PROTEIN	MAJOR CAPSID PROTEIN	SHOPE FIBROMA VIRUS (STRAIN KASZA)	54-78	171-198							
PVCA13	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	320-340	694-714	715-734						
PVCA14	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN WR)	320-340	694-714	715-734						
PVCA15	PROTEIN	MAJOR CAPSID PROTEIN	VARIOLA VIRUS	320-340	694-714	715-734						
PVCA16	PROTEIN	MAJOR CAPSID PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	37-56								
PVCA17	PROTEIN	MAJOR CAPSID PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN DH)	37-56								
PVCA18	PROTEIN	MAJOR CAPSID PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BBC)	37-56								
PVCA19	PROTEIN	MAJOR CAPSID PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	37-56								
PVCA20	PROTEIN	MAJOR CAPSID PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	37-56								
PVCA21	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	70-97	355-380	540-558						
PVCA22	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN WR)	70-97	355-380	540-558						
PVCA23	PROTEIN	MAJOR CAPSID PROTEIN	VARIOLA VIRUS	70-97	355-380	540-558						
PVCA24	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	314-329								
PVCA25	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN DAIREN 1)	324-339								
PVCA26	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN WR)	324-339								
PVCA27	PROTEIN	MAJOR CAPSID PROTEIN	VARIOLA VIRUS	324-339								
PVCA28	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	430-451								
PVCA29	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN WR)	430-451								
PVCA30	PROTEIN	MAJOR CAPSID PROTEIN	VARIOLA VIRUS	251-267	430-451							
PVCA31	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	254-270								
PVCA32	PROTEIN	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN WR)	254-270								
PVCA33	PROTEIN	MAJOR CAPSID PROTEIN	VARIOLA VIRUS	254-270								
PVCA34	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 16	167-183								
PVCA35	PROTEIN	MAJOR CAPSID PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	106-133								
PVCA36	PROTEIN	MAJOR CAPSID PROTEIN	BOVINE PAPILLOMA VIRUS TYPE 1	265-282	517-533							
PVCA37	PROTEIN	MAJOR CAPSID PROTEIN	BOVINE PAPILLOMA VIRUS TYPE 2	265-281	516-532							
PVCA38	PROTEIN	MAJOR CAPSID PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMA VIRUS (STRAIN KANSAS)	7-22								
PVCA39	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 11	258-275	311-334							
PVCA40	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 13	308-324								
PVCA41	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 18	264-281	317-333	344-364						
PVCA42	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 31	237-254								
PVCA43	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 33	238-260								
PVCA44	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 39	334-354								
PVCA45	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 41	363-380								
PVCA46	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 42	304-320								
PVCA47	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 58	238-260								
PVCA48	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 68	258-275	311-334							
PVCA49	PROTEIN	MAJOR CAPSID PROTEIN	PYGMY CHIMPANZEE PAPILLOMA VIRUS TYPE 1	257-274	310-326							
PVCA50	PROTEIN	MAJOR CAPSID PROTEIN	RHESUS PAPILLOMA VIRUS TYPE 1	286-309								
PVCA51	PROTEIN	MAJOR CAPSID PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMA VIRUS (STRAIN KANSAS)	308-333								
PVCA52	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 11	285-310								
PVCA53	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 13	295-320								
PVCA54	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 18	288-306								
PVCA55	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 1A	284-300								
PVCA56	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 2A	311-336								
PVCA57	PROTEIN	MAJOR CAPSID PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 31	294-312								

PGENE	PICTLZIP	All Viruses (No Bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	275-293								
PVE2 HPV33	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	289-307								
PVE2 HPV35	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	292-310								
PVE2 HPV39	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	321-338								
PVE2 HPV42	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 42	303-328								
PVE2 HPV57	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 57	286-311								
PVE2 HPV68	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 68	333-351								
PVE2 PAPVD	PROBABLE E2 PROTEIN	DEER PAPILLOMAVIRUS	295-320								
PVE2 PCPV1	E2 PROTEIN	PRIMAY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	296-308								
PVE2 HPV1	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1	39-59								
PVE4 HPV18	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	56-76								
PVE4 HPV41	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	59-83								
PVE4 HPV51	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	61-87								
PVE4 HPV1	PROBABLE E4 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1	19-42								
PVE5A HPV11	PROBABLE E5A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	19-42								
PVE5A HPV6C	PROBABLE E5A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6C	2-26								
PVE5 BPV1	E5 PROTEIN	BOVINE PAPILLOMAVIRUS TYPE 1, AND TYPE 2	19-42								
PVE5 HPV13	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 13	31-52								
PVE5 HPV31	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	45-65								
PVE5 HPV42	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 42	31-52								
PVE5 HPV51	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	80-113								
PVE5 HPV31	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	109-132								
PVE5 HPV1	PROBABLE E5 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1	23-41								
PVE6 BPV1	E6 PROTEIN	BOVINE PAPILLOMAVIRUS TYPE 1	6-23								
PVE6 CRPVK	E6 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	133-151								
PVE6 HPV8	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8	8-27								
PVE6 HPV7A	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 7A	9-26								
PVE6 HPV33	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	9-26								
PVE6 HPV35	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	9-26								
PVE6 HPV31	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	8-27								
PVE6 HPV57	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 57	9-26								
PVE6 HPV58	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	9-26								
PVE6 MRPV	E6 PROTEIN	MICROMYS MINUTUS PAPILLOMAVIRUS	16-60								
PVE7 CRPVK	E7 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	71-88								
PVE7 HPV13	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 13	77-93								
PVE7 HPV51	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	61-87								
PVE7 HPV68	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 68	20-37								
PVE7 HPV1	E7 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1	79-105								
PVE8 NPVAC	EARLY 94 KD PROTEIN	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	78-99	203-222							
PVE8 BEV	ENVELOPE PROTEIN	TRICHOPLUSIA NI GRANULOSIS VIRUS	154-175	227-260	677-696						
PVE8 GVTN	VIRAL ENHANCING FACTOR	BERNE VIRUS	62-86	87-114							
PVE9 BEV	ENVELOPE PROTEIN	DHORI VIRUS (STRAIN IND/ANI/313/61)	42-57	484-511							
PVE9 DHV1	ENVELOPE GLYCOPROTEIN PRECURSOR	EQUINE ARTERITIS VIRUS	25-41								
PVE9 EAV	PROBABLE ENVELOPE PROTEIN	LELYSTAD VIRUS	27-47	148-168							
PVE9 LEV	PROBABLE ENVELOPE PROTEIN	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 1	61-80								
PVE9 MCV1	MAJOR ENVELOPE PROTEIN	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 2	61-80	306-333							
PVE9 MCV2	MAJOR ENVELOPE PROTEIN	THOGOTO VIRUS	196-221	356-383	473-491						
PVE9 THOCV	ENVELOPE GLYCOPROTEIN PRECURSOR	AUTOGRAPHIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	82-105								
PVE9 NPVAC	ECOR-1 SITE PROTEIN ETM	VACCINIA VIRUS (STRAIN COPENHAGEN)	280-305								
PVF05 VACCC	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	280-305								
PVF05 VACCC	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN L-1VP)	280-305								
PVF05 VACCV	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN WR)	281-306								
PVF05 VARV	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VARIOLA VIRUS	280-305								
PVF09 VACCC	PROTEIN F9	VACCINIA VIRUS (STRAIN COPENHAGEN), AND (STRAIN L-1VP)	176-200								
PVF09 VACCV	PROTEIN F9	VACCINIA VIRUS (STRAIN WR)	176-200								
PVF09 VARV	PROTEIN F9	VARIOLA VIRUS	176-200								
PVF11 VACCC	PROTEIN F11	VACCINIA VIRUS (STRAIN COPENHAGEN)	161-184								
PVF11 VARV	PROTEIN F11	VARIOLA VIRUS	161-184								
PVF15 VACCC	PROTEIN F15	VACCINIA VIRUS (STRAIN COPENHAGEN)	25-48								

PCGENE	PLACTLZIP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS									
PVF13 VACCP	PROTEIN F13	VACCINIA VIRUS (STRAIN L-IVP)	3-26								
PVF15 VARV	PROTEIN F15	VARIOLA VIRUS	24-51								
PVFPI FOWPV	PROTEIN FPI	FOWLPOX VIRUS	297-323								
PVFPI FOWPV	PROTEIN FPI	FOWLPOX VIRUS	88-104								
PVFPI CAPVK	PROTEIN FPI	CAPRIPOX VIRUS (STRAIN KS-1)	89-111								
PVFPI FOWPV	PROTEIN FPI	FOWLPOX VIRUS	65-90								
PVFPI CAPVK	CFBA PROTEIN	CAPRIPOX VIRUS (STRAIN KS-1)	51-76								
PVFUS ORNZ	10 KD FUSION PROTEIN	ORF VIRUS (STRAIN NZ2)	29-48								
PVFUS VACC6	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN WR 65-16)	72-94								
PVG01 HSVEB	HYPOTHETICAL GENE 1 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	169-195								
PVG01 HSVI	HYPOTHETICAL GENE 1 PROTEIN	ICTALURID HERPESVIRUS 1	210-225	317-339	589-616						
PVG01 VACC	PROTEIN G1	VACCINIA VIRUS (STRAIN COPENHAGEN)	298-318	376-395							
PVG01 VACC	PROTEIN G1	VACCINIA VIRUS (STRAIN WR)	237-257	315-334							
PVG01 VARV	PROTEIN G1	VARIOLA VIRUS	298-318	376-395							
PVG01 VZVD	HYPOTHETICAL GENE 1 PROTEIN	VARIOLA-ZOSTER VIRUS (STRAIN DUMAS)	58-82								
PVG01 VACC	PROTEIN G3	VACCINIA VIRUS (STRAIN COPENHAGEN)	50-72								
PVG01 VARV	PROTEIN G3	VARIOLA VIRUS	50-72								
PVG04 VACC	PROTEIN G4	VACCINIA VIRUS (STRAIN COPENHAGEN)	11-33								
PVG04 VARV	PROTEIN G4	VARIOLA VIRUS	11-33								
PVG06 VACC	PROTEIN G6	VACCINIA VIRUS (STRAIN COPENHAGEN)	31-51								
PVG06 VARV	PROTEIN G6	VARIOLA VIRUS	31-51								
PVG08 HSVI	HYPOTHETICAL GENE 8 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	134-149	159-185							
PVG10 HSVI	HYPOTHETICAL GENE 10 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	35-54								
PVG10 HSVSA	HERPESVIRUS SAIMIRI	HERPESVIRUS SAIMIRI (STRAIN 11)	109-124	155-179							
PVG11 HSVI	HYPOTHETICAL GENE 11 ZINC-BINDING PROTEIN	ICTALURID HERPESVIRUS 1	101-122	150-176							
PVG12 HSVI	HYPOTHETICAL GENE 12 ZINC-BINDING PROTEIN	ICTALURID HERPESVIRUS 1	151-178	270-286							
PVG12 HSVSA	HYPOTHETICAL GENE 12 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	68-92								
PVG19 HSVI	HYPOTHETICAL GENE 19 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	88-112								
PVG11 AMEPV	GIL PROTEIN	AMSACTA MOORENT ENTOMOPOXVIRUS	313-336								
PVG1 SPVIR	CAPSID PROTEIN	SPIROPLASMA VIRUS SPV1-RAA2 B	76-92	659-678							
PVG22 HSVI	HYPOTHETICAL GENE 22 PROTEIN	ICTALURID HERPESVIRUS 1	300-327								
PVG23 HSVI	HYPOTHETICAL GENE 23 PROTEIN	ICTALURID HERPESVIRUS 1	314-335								
PVG27 HSVI	HYPOTHETICAL GENE 27 PROTEIN	ICTALURID HERPESVIRUS 1	158-184								
PVG27 HSVSA	HYPOTHETICAL GENE 27 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	209-226								
PVG28 HSVI	HYPOTHETICAL GENE 28 PROTEIN	ICTALURID HERPESVIRUS 1	173-197	491-518							
PVG28 HSVSA	HYPOTHETICAL GENE 28 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	14-40								
PVG29 HSVI	HYPOTHETICAL GENE 29 PROTEIN	ICTALURID HERPESVIRUS 1	20-42								
PVG30 HSVI	HYPOTHETICAL GENE 30 PROTEIN	ICTALURID HERPESVIRUS 1	166-191								
PVG32 VZVD	GENE 32 PROTEIN	VARIOLA-ZOSTER VIRUS (STRAIN DUMAS)	90-109								
PVG36 HSVSA	POSSIBLE TYROSINE-PROTEIN KINASE	HERPESVIRUS SAIMIRI (STRAIN 11)	108-123	344-362							
PVG37 HSVI	HYPOTHETICAL GENE 37 PROTEIN	ICTALURID HERPESVIRUS 1	284-299								
PVG39 HSVI	HYPOTHETICAL GENE 39 PROTEIN	ICTALURID HERPESVIRUS 1	648-675	970-990	1038-1065						
PVG40 HSVI	HYPOTHETICAL GENE 40 PROTEIN	ICTALURID HERPESVIRUS 1	14-32								
PVG41 HSVI	HYPOTHETICAL GENE 41 PROTEIN	ICTALURID HERPESVIRUS 1	11-38	62-81	244-260						
PVG43 HSVI	HYPOTHETICAL GENE 43 PROTEIN	ICTALURID HERPESVIRUS 1	109-133	157-178	322-345	521-538					
PVG46 HSVI	PROBABLE MAJOR GLYCOPROTEIN	ICTALURID HERPESVIRUS 1	134-156	580-607	917-963	1244-1270					
PVG48 HSVI	HYPOTHETICAL GENE 48 PROTEIN	ICTALURID HERPESVIRUS 1	71-93								
PVG50 HSVSA	PROB TRANSCRIPTION ACTIVATOR EDRF1	HERPESVIRUS SAIMIRI (STRAIN 11)	5-30	58-83							
PVG51 HSVI	HYP GENE 51 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	29-49	84-102							
PVG52 HSVI	HYPOTHETICAL GENE 52 PROTEIN	ICTALURID HERPESVIRUS 1	229-252								
PVG53 HSVI	HYPOTHETICAL GENE 53 PROTEIN	ICTALURID HERPESVIRUS 1	22-37	143-158	288-309						
PVG55 HSVSA	HYPOTHETICAL GENE 55 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	85-106								
PVG56 HSVI	HYPOTHETICAL GENE 56 PROTEIN	ICTALURID HERPESVIRUS 1	1155-1176								
PVG58 HSVSA	GENE 58 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	130-146	266-288	293-319	330-346					
PVG59 HSVI	HYP GENE 59 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	142-161	267-289							
PVG5 SPV4	GENE 5 PROTEIN	SPIROPLASMA VIRUS 4	42-64								
PVG60 HSVI	HYPOTHETICAL GENE 60 PROTEIN	ICTALURID HERPESVIRUS 1	30-51	51-75							

PCGENE	PICTLZIP	All Viruses (No Bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	VIRUS									
PVG61_HSV1	HYPOTHEICAL GENE 61 PROTEIN	ICTALURID HERPESVIRUS 1	76-102	117-136							
PVG63_HSV1	HYPOTHEICAL GENE 63 PROTEIN	ICTALURID HERPESVIRUS 1	238-259	336-363							
PVG64_HSV1	HYPOTHEICAL GENE 64 PROTEIN	ICTALURID HERPESVIRUS 1	420-445								
PVG65_HSV1	HYPOTHEICAL GENE 65 PROTEIN	ICTALURID HERPESVIRUS 1	117-137	155-173	362-378	518-533	1147-1174	1347-1369			
PVG67_HSV1	HYPOTHEICAL GENE 67 PROTEIN	ICTALURID HERPESVIRUS 1	108-132	171-188	318-344	722-745	1005-1029	1072-1091	1315-1341		
PVG6 SPVIR	GENE 6 PROTEIN	SPIROPLASMA VIRUS SPV1-RA2 B	60-82								
PVG70_HSV1	HYPOTHEICAL GENE 70 PROTEIN	ICTALURID HERPESVIRUS 1	184-209								
PVG71_HSV1	HYPOTHEICAL GENE 71 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	89-105								
PVG72_HSV1	HYPOTHEICAL GENE 72 PROTEIN	ICTALURID HERPESVIRUS 1	445-471	535-561	720-744	1252-1269					
PVG74_HSV1	G-PROTEIN COUPLED REC HOMOLOG ECKF3	HERPESVIRUS SAIMIRI (STRAIN 11)	124-151								
PVG9 SPVIR	GENE 9 PROTEIN	SPIROPLASMA VIRUS SPV1-RA2 B	57-72								
PVG1_BVB	F1 PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	1587-1606	1856-1877	2108-2127	2210-2226	2788-2806	2973-2999	3073-3090	3120-3145	3174-3199
PVG13_HCMVA	GLYCOPROTEIN H101 PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	3601-3623								
PVG1 CVPR3	E1 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN 86/137004/DK171511)	157-178								
PVG12 CVBF	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN FIS)	10-33	123-139	174-190	264-279	991-1017	1259-1280			
PVG12 CVBL9	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN L9)	123-139	174-190	264-279	651-674	991-1017	1259-1280			
PVG12 CVBL5	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN LY-138)	10-33	123-139	174-190	264-279	991-1017	1259-1280			
PVG12 CVBM	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN MEUBS)	123-139	174-190	264-279	991-1017	1259-1280				
PVG12 CVBQ	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN QUEBEC)	31-47	123-139	174-190	264-279	991-1017	1259-1280			
PVG12 CVBV	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN VACCINE)	123-139	174-190	264-279	991-1017	1259-1280				
PVG12 CVH22	E2 GLYCOPROTEIN PRECURSOR	HUMAN CORONAVIRUS (STRAIN 229E)	768-794	1053-1071	1115-1134						
PVG12 CVM4	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN WILD TYPE 4)	95-111	999-1025	1257-1290	1317-1338					
PVG12 CVMA3	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN A39)	95-111	947-973	1215-1238	1265-1286					
PVG12 CVMC	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN JHM / VARIANT CL-2)	95-111	999-1025	1257-1290	1317-1338					
PVG12 CVMH	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN JHM)	95-111	858-884	1126-1149	1176-1191					
PVG12 CVPF5	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 64-83)	442-457	800-816	1038-1064	1274-1297					
PVG12 CVPM1	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 64-83)	442-457	800-816	1038-1064	1274-1297					
PVG12 CVPM2	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 64-83)	442-457	800-816	1038-1064	1274-1297					
PVG12 CVPR	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 64-83)	442-457	800-816	1038-1064	1274-1297					
PVG12 CVPRU	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 64-83)	442-457	800-816	1038-1064	1274-1297					
PVG12 CVPR8	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 64-83)	442-457	800-816	1038-1064	1274-1297					
PVG12 CVPRM	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 64-83)	442-457	800-816	1038-1064	1274-1297					
PVG12 CVPR1	E2 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 64-83)	442-457	800-816	1038-1064	1274-1297					
PVG12 F1P	E2 GLYCOPROTEIN PRECURSOR	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	803-819	1041-1067	1277-1300						
PVG12_BV6	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN 693)	196-219	388-407	771-797	1056-1081	1094-1111				
PVG12_BV8	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	195-218	387-406	770-796	1055-1080					
PVG12_BV01	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN D274)	196-219	388-407	771-797	1056-1081					
PVG12_BV03	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN D396)	196-219								
PVG12_BVVK	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB523)	195-218	387-406	770-796	1055-1080					
PVG12_BVM	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN M41)	195-218	378-398	587-606	770-796	1055-1080				
PVG12_BVU1	E2 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN UK12182)	178-201								
PVG12_BVU2	E2 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN UK14286)	178-201								
PVG12_BVU3	E2 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN UK16784)	178-201								
PVGLB_EBV	GLYCOPROTEIN GP110 PRECURSOR	EPSTEIN-BARR VIRUS (STRAIN B95-8)	732-752								
PVGLB_HCMVA	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	535-558	706-732	750-777						
PVGLB_HCMVT	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	536-559	707-733	751-778						
PVGLB_HSV11	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	83-104								
PVGLB_HSV1K	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	82-103								
PVGLB_HSV1P	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	82-103								
PVGLB_HSV23	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN PATTON)	79-99								
PVGLB_HSV2H	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	79-99								
PVGLB_HSV2S	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN SA8)	65-85								
PVGLB_HSV6U	GLYCOPROTEIN B (FRAGMENT)	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	72-92	117-144							
PVGLB_HSVB1	GLYCOPROTEIN I PRECURSOR	BOVINE HERPESVIRUS TYPE 1	560-578	689-707							
PVGLB_HSVB2	GLYCOPROTEIN B-1 PRECURSOR	BOVINE HERPESVIRUS TYPE 2 (STRAIN BMV)	279-299	745-767							
PVGLB_HSVBC	GLYCOPROTEIN I PRECURSOR	BOVINE HERPESVIRUS TYPE 1 (STRAIN COOPER)	692-710								

PGENE	FILENAME	PROTEIN	P1CTLZIP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVGLB_HSV1	GLYCOPROTEIN B PRECURSOR			EQUINE HERPESVIRUS TYPE 1 (ISOLATE HVS25A) (EHV-1)	736-753								
PVGLB_HSV2	GLYCOPROTEIN B PRECURSOR			EQUINE HERPESVIRUS TYPE 1 (STRAIN ABI)	675-692								
PVGLB_HSV3	GLYCOPROTEIN B PRECURSOR			EQUINE HERPESVIRUS TYPE 1 (STRAIN ABI)	736-753								
PVGLB_HSV4	GLYCOPROTEIN B PRECURSOR			EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	736-753								
PVGLB_HSV5	GLYCOPROTEIN B PRECURSOR			EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY D)	736-753								
PVGLB_HSV6	GLYCOPROTEIN B PRECURSOR			MAREK'S DISEASE HERPESVIRUS (STRAIN RB-1B)	389-613								
PVGLB_HSV7	GLYCOPROTEIN B PRECURSOR			HERPESVIRUS SAIMIRI (STRAIN 11)	483-506	584-602	701-716						
PVGLB_HSV8	GLYCOPROTEIN B PRECURSOR			INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN 632)	256-275	597-621	740-758						
PVGLB_HSV9	GLYCOPROTEIN B PRECURSOR			INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN SA-2)	266-285	607-631	750-768						
PVGLB_HSV10	GLYCOPROTEIN B PRECURSOR			INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	266-285	607-631	750-768						
PVGLB_HSV11	GLYCOPROTEIN B PRECURSOR			MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	135-156	566-589	738-765						
PVGLB_HSV12	GLYCOPROTEIN B PRECURSOR			PSUEDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKER)	201-218								
PVGLB_HSV13	GLYCOPROTEIN B PRECURSOR			VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	522-538								
PVGLB_HSV14	GLYCOPROTEIN B PRECURSOR			HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	3-22	467-493							
PVGLB_HSV15	GLYCOPROTEIN C PRECURSOR			HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	3-22	467-493							
PVGLB_HSV16	GLYCOPROTEIN C PRECURSOR			HERPES SIMPLEX VIRUS (TYPE 2)	435-458								
PVGLB_HSV17	GLYCOPROTEIN C PRECURSOR			HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 333)	430-459								
PVGLB_HSV18	GLYCOPROTEIN C PRECURSOR			BOVINE HERPESVIRUS TYPE 1 (STRAIN COOPER)	475-494								
PVGLB_HSV19	GLYCOPROTEIN C PRECURSOR			EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	444-459								
PVGLB_HSV20	GLYCOPROTEIN C PRECURSOR			EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) AND (STRAIN KENTUCKY)	427-442								
PVGLB_HSV21	SECRETORY GLYCOPROTEIN GP37-45 PRECURSOR			MAREK'S DISEASE HERPESVIRUS (STRAIN RB-1)	399-421								
PVGLB_HSV22	SECRETORY GLYCOPROTEIN GP37-45 PRECURSOR			MAREK'S DISEASE HERPESVIRUS (STRAIN RB-1B)	399-421								
PVGLB_HSV23	SECRETORY GLYCOPROTEIN GP37-45 PRECURSOR			MAREK'S DISEASE HERPESVIRUS (STRAIN GA)	398-420								
PVGLB_HSV24	SECRETORY GLYCOPROTEIN GP37-45 PRECURSOR			MAREK'S DISEASE HERPESVIRUS (STRAIN ND5)	399-421								
PVGLB_HSV25	SECRETORY GLYCOPROTEIN GP37-45 PRECURSOR			PSUEDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKER)	180-197	446-472							
PVGLB_HSV26	GLYCOPROTEIN GIII PRECURSOR			VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	431-449								
PVGLB_HSV27	GLYCOPROTEIN GIII PRECURSOR			VARICELLA-ZOSTER VIRUS (STRAIN SCOTT)	431-449								
PVGLB_HSV28	GLYCOPROTEIN D PRECURSOR			HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	79-94								
PVGLB_HSV29	GLYCOPROTEIN D PRECURSOR			HERPES SIMPLEX VIRUS (TYPE 2)	104-129	413-437							
PVGLB_HSV30	GLYCOPROTEIN E PRECURSOR			HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	469-493								
PVGLB_HSV31	FUSION GLYCOPROTEIN PRECURSOR			VARICELLA-ZOSTER VIRUS (STRAIN DUNAS)	205-221	265-287	482-504						
PVGLB_HSV32	FUSION GLYCOPROTEIN PRECURSOR			BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	205-221	265-280	484-506						
PVGLB_HSV33	FUSION GLYCOPROTEIN PRECURSOR			BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGEN)	205-221	265-280	484-506						
PVGLB_HSV34	FUSION GLYCOPROTEIN PRECURSOR			BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN RB94)	205-221	265-280	484-506						
PVGLB_HSV35	FUSION GLYCOPROTEIN PRECURSOR			CANINE DISTEMPER VIRUS (STRAIN ONDERSTPOORT)	336-361	398-414	562-589						
PVGLB_HSV36	FUSION GLYCOPROTEIN PRECURSOR			HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 185)	205-221	265-280	484-506						
PVGLB_HSV37	FUSION GLYCOPROTEIN PRECURSOR			HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	205-221	265-280	484-506						
PVGLB_HSV38	FUSION GLYCOPROTEIN PRECURSOR			HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN LO)	205-221	265-280	484-506						
PVGLB_HSV39	FUSION GLYCOPROTEIN PRECURSOR			HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN LO)	205-221	265-280	484-506						
PVGLB_HSV40	FUSION GLYCOPROTEIN PRECURSOR			MEASLES VIRUS (STRAIN EDMONSTON) and (STRAIN HALLE)	224-245	286-302	451-477						
PVGLB_HSV41	FUSION GLYCOPROTEIN PRECURSOR			MEASLES VIRUS (STRAIN JIP-3-CA)	227-248	289-305	454-480						
PVGLB_HSV42	FUSION GLYCOPROTEIN PRECURSOR			MEASLES VIRUS (STRAIN YAMAGATA-1)	224-245	286-302	451-477						
PVGLB_HSV43	FUSION GLYCOPROTEIN PRECURSOR			MUMPS VIRUS (STRAIN SBL-1)	5-20	276-292	446-467						
PVGLB_HSV44	FUSION GLYCOPROTEIN PRECURSOR			MUMPS VIRUS (STRAIN MYAHARA VACCINE)	276-292	446-467							
PVGLB_HSV45	FUSION GLYCOPROTEIN PRECURSOR			MUMPS VIRUS (STRAIN RW)	276-292	446-467							
PVGLB_HSV46	FUSION GLYCOPROTEIN PRECURSOR			MUMPS VIRUS (STRAIN SBL)	5-20	276-292	446-467						
PVGLB_HSV47	FUSION GLYCOPROTEIN PRECURSOR			NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA032)	273-289								
PVGLB_HSV48	FUSION GLYCOPROTEIN PRECURSOR			NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C45)	273-289								
PVGLB_HSV49	FUSION GLYCOPROTEIN PRECURSOR			NEWCASTLE DISEASE VIRUS (STRAIN HER33)	273-289								
PVGLB_HSV50	FUSION GLYCOPROTEIN PRECURSOR			NEWCASTLE DISEASE VIRUS (STRAIN B1-HITCHNER47)	273-289								
PVGLB_HSV51	FUSION GLYCOPROTEIN PRECURSOR			NEWCASTLE DISEASE VIRUS (STRAIN LAS46)	273-289								
PVGLB_HSV52	FUSION GLYCOPROTEIN PRECURSOR			NEWCASTLE DISEASE VIRUS (STRAIN MIYADARA51)	273-289								
PVGLB_HSV53	FUSION GLYCOPROTEIN PRECURSOR			NEWCASTLE DISEASE VIRUS (STRAIN QUEENSLAND/66)	273-289								
PVGLB_HSV54	FUSION GLYCOPROTEIN PRECURSOR			NEWCASTLE DISEASE VIRUS (STRAIN TEXAS)	273-289								
PVGLB_HSV55	FUSION GLYCOPROTEIN PRECURSOR			NEWCASTLE DISEASE VIRUS (STRAIN TEXAS G B 48)	273-289								
PVGLB_HSV56	FUSION GLYCOPROTEIN PRECURSOR			NEWCASTLE DISEASE VIRUS (STRAIN ULSTER67)	273-289								
PVGLB_HSV57	FUSION GLYCOPROTEIN PRECURSOR			PHOCINE DISTEMPER VIRUS	269-285	305-326	367-383	531-558					

PCGENE	PICTLZIP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS									
PVGLF_P1HIC	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	456-477								
PVGLF_P1H2	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (PIV-2)	450-471								
PVGLF_P1H3	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN GREER)	450-471								
PVGLF_P1H4	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIIBA)	450-471								
PVGLF_P1H5	FUSION GLYCOPROTEIN PRECURSOR	BOVINE PARAINFLUENZA 3 VIRUS	405-426	453-474							
PVGLF_P1H6	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	2-20	283-310	453-474						
PVGLF_P1H7	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN KABETE O)	220-241	282-298	447-473						
PVGLF_P1H8	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN L)	220-241	282-298	447-473						
PVGLF_P1H9	FUSION GLYCOPROTEIN PRECURSOR	SENDAL VIRUS (STRAIN Z / HOST MUTANTS)	460-481								
PVGLF_P1H10	FUSION GLYCOPROTEIN PRECURSOR	SENDAL VIRUS (STRAIN FUSIIMI)	460-481								
PVGLF_P1H11	FUSION GLYCOPROTEIN PRECURSOR	SENDAL VIRUS (STRAIN HARRIS)	460-481								
PVGLF_P1H12	FUSION GLYCOPROTEIN PRECURSOR	SENDAL VIRUS (STRAIN HV)	460-481								
PVGLF_P1H13	FUSION GLYCOPROTEIN PRECURSOR	SENDAL VIRUS (STRAIN Z)	460-481								
PVGLF_P1H14	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 41	453-474								
PVGLF_P1H15	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 5 (STRAIN W3)	401-425	446-467							
PVGLF_P1H16	FUSION GLYCOPROTEIN PRECURSOR	TURKEY RHINOTRACHEITIS VIRUS	175-191	452-474							
PVGLF_P1H17	FUSION GLYCOPROTEIN PRECURSOR	INFECTIOUS HEMATOPOIETIC NECROSIS VIRUS (STRAIN ROUND BUT)	77-99								
PVGLF_P1H18	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN ERA)	454-474								
PVGLF_P1H19	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN HEP-FLURY)	372-391	454-474							
PVGLF_P1H20	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN PV)	454-474								
PVGLF_P1H21	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN SAD B19)	454-474								
PVGLF_P1H22	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN STREET)	454-474								
PVGLF_P1H23	MAJOR SURFACE GLYCOPROTEIN G	TURKEY RHINOTRACHEITIS VIRUS	199-216								
PVGLF_P1H24	GLYCOPROTEIN H PRECURSOR	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN 07-71)	406-428								
PVGLF_P1H25	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	211-237	365-382	574-598	691-712					
PVGLF_P1H26	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	210-236	364-381	573-597	690-711					
PVGLF_P1H27	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	245-262	443-467	803-827						
PVGLF_P1H28	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN HFEM)	245-262	443-467	803-827						
PVGLF_P1H29	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	314-332								
PVGLF_P1H30	GLYCOPROTEIN H PRECURSOR	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	304-325	814-839							
PVGLF_P1H31	GLYCOPROTEIN H PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4Pnd (ISOLATE HVS25A))	297-318	807-832							
PVGLF_P1H32	GLYCOPROTEIN H PRECURSOR	HERPESVIRUS SAIMIRI (STRAIN 11)	454-479	658-679							
PVGLF_P1H33	GLYCOPROTEIN H PRECURSOR	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	670-690								
PVGLF_P1H34	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	158-180								
PVGLF_P1H35	GLYCOPROTEIN I	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	43-60								
PVGLF_P1H36	GLYCOPROTEIN I	EQUINE HERPESVIRUS TYPE 1	44-63								
PVGLF_P1H37	GLYCOPROTEIN I	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	278-297								
PVGLF_P1H38	M POLYPROTEIN PRECURSOR	BUNYA VIRUS GERMISTON	117-136	197-222							
PVGLF_P1H39	M POLYPROTEIN PRECURSOR	BUNYA VIRUS L.A. CROSSE (ISOLATE L74)	31-55	81-98	190-211	1325-1345	1387-1410				
PVGLF_P1H40	M POLYPROTEIN PRECURSOR	BUNYA VIRUS SNOWSHOE HAKE	31-55	81-98	190-211	1325-1345	1387-1410				
PVGLF_P1H41	M POLYPROTEIN PRECURSOR	BUNYAMWEA VIRUS	193-218	1379-1404							
PVGLF_P1H42	M POLYPROTEIN PRECURSOR	DUGBIE VIRUS									
PVGLF_P1H43	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN B-1)	355-371	692-717	900-915	999-1019					
PVGLF_P1H44	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN HOJO)	499-515	694-718	1000-1020						
PVGLF_P1H45	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN LEE)	499-515	694-719	1001-1021						
PVGLF_P1H46	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN 76-118)	499-515	694-719	1001-1021						
PVGLF_P1H47	M POLYPROTEIN PRECURSOR	IMPA TIENS NECROTIC SPOT VIRUS (INSV)	18-44	269-293	346-367	531-551	815-841				
PVGLF_P1H48	M POLYPROTEIN PRECURSOR	PROSPECT HILL VIRUS	152-171								
PVGLF_P1H49	M POLYPROTEIN PRECURSOR	PUNTA TORO PHLEBOVIRUS	743-765	997-1016							
PVGLF_P1H50	M POLYPROTEIN PRECURSOR	PUNJALA VIRUS (STRAIN HALLNAS B1)	155-174	509-525	712-729						
PVGLF_P1H51	M POLYPROTEIN PRECURSOR	PUNJALA VIRUS (STRAIN SOTKANO)	155-174	509-525	712-729	1092-1117					
PVGLF_P1H52	M POLYPROTEIN PRECURSOR	RIFT VALLEY FEVER VIRUS	53-80	344-368	830-856						
PVGLF_P1H53	M POLYPROTEIN PRECURSOR	RIFT VALLEY FEVER VIRUS (STRAIN ZH1-548 M12)	53-80	344-368	830-856	1156-1176					
PVGLF_P1H54	M POLYPROTEIN PRECURSOR	SEUL VIRUS (STRAIN 80-39)	355-371	692-717	900-915	999-1019					
PVGLF_P1H55	M POLYPROTEIN PRECURSOR	SEUL VIRUS (STRAIN SR-11)	355-371	692-717	900-915	999-1019					
PVGLF_P1H56	M POLYPROTEIN PRECURSOR	SEUL VIRUS (STRAIN SR-11)	355-371	692-717	900-915	999-1019					
PVGLF_P1H57	M POLYPROTEIN PRECURSOR	UUKUNIEMI VIRUS	561-585	826-842	925-952	966-989					

PCGUNE	FILENAME	PROTEIN	PI11C1ZIP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVGLP_BEV	PEPOMER GLYCOPROTEIN PRECURSOR			BENNE VIRUS	430-452	869-885	1099-1124	1546-1588					
PVGLX_HSVB	GLYCOPROTEIN X PRECURSOR			EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)									
PVGLX_HSVK	GLYCOPROTEIN GX PRECURSOR			EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)									
PVGLX_HSVL	GLYCOPROTEIN GX			EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY D)									
PVGLX_PVRI	SECRETED GLYCOPROTEIN GX			PSEUDORABIES VIRUS (STRAIN RICE)	149-176								
PVGLY_IJUN	GLYCOPROTEIN POLYPROTEIN PRECURSOR			JUNIN ARENA VIRUS	12-38								
PVGLY_LASSG	GLYCOPROTEIN POLYPROTEIN PRECURSOR			LASSA VIRUS (STRAIN GA391)	12-38	237-258	426-448						
PVGLY_LASSJ	GLYCOPROTEIN POLYPROTEIN PRECURSOR			LASSA VIRUS (STRAIN JOSIAH)	12-35	238-259	427-449						
PVGLY_LYCAV	GLYCOPROTEIN POLYPROTEIN PRECURSOR			LYMPHOCTIC CHOROMENINGITIS VIRUS (STRAIN AB3STRONG)	12-35								
PVGLY_LYCVW	GLYCOPROTEIN POLYPROTEIN PRECURSOR			LYMPHOCTIC CHOROMENINGITIS VIRUS (STRAIN WE)	12-35	89-108							
PVGLY_MOPEI	GLYCOPROTEIN POLYPROTEIN PRECURSOR			MOPEIA VIRUS	12-35	423-447							
PVGLY_P1ARV	GLYCOPROTEIN POLYPROTEIN PRECURSOR			PICHINDE ARENA VIRUS	12-38	441-466							
PVGLY_TACV	GLYCOPROTEIN POLYPROTEIN PRECURSOR			TACARIBE VIRUS	12-38								
PVGLY_TACV5	GLYCOPROTEIN POLYPROTEIN PRECURSOR			TACARIBE VIRUS (STRAIN V5)	12-38								
PVGLY_TACV7	GLYCOPROTEIN POLYPROTEIN PRECURSOR			TACARIBE VIRUS (STRAIN V7)	12-38								
PVGLY_TACVT	GLYCOPROTEIN POLYPROTEIN PRECURSOR			TACARIBE VIRUS (STRAIN TVL 11598)	12-38								
PVGNB_CPMV	GENOME POLYPROTEIN B			COWPEA MOSAIC VIRUS	141-161	569-594	757-783	1110-1135	1165-1184				
PVGNM_CPMV	GENOME POLYPROTEIN M			COWPEA MOSAIC VIRUS	311-335	741-764							
PVGP2_EBV	PROBABLE MEMBRANE ANTIGEN GP220			EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	657-681								
PVGP3_EBV	ENVELOPE GLYCOPROTEIN GP340			EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	854-878								
PVGP8_EBV	PROBABLE MEMBRANE ANTIGEN GP83			EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	67-88								
PVGP_EBOV	STRUCTURAL GLYCOPROTEIN PRECURSOR			EBOLA VIRUS	34-52	537-561	653-675						
PVGP_MABVM	STRUCTURAL GLYCOPROTEIN PRECURSOR			MARBURG VIRUS (STRAIN MUSKE)	538-562	607-627							
PVGP_MABVP	STRUCTURAL GLYCOPROTEIN PRECURSOR			MARBURG VIRUS (STRAIN POPP)	538-562	607-627							
PVH01_VACCC	PROTEIN-TYROSINE PHOSPHATASE			VACCINIA VIRUS (STRAIN COPENHAGEN)	76-92	105-121							
PVH01_VACCV	PROTEIN-TYROSINE PHOSPHATASE			VACCINIA VIRUS (STRAIN WR)	76-92	105-121							
PVH01_VARV	PROTEIN-TYROSINE PHOSPHATASE			VARIOLA VIRUS	76-92	105-121							
PVH07_VACCV	LATE PROTEIN H7			VACCINIA VIRUS (STRAIN WR)	70-97								
PVH07_VARV	LATE PROTEIN H7			VARIOLA VIRUS	70-97								
PVHEL_F0XV	PROBABLE HELICASE			FOXTAIL MOSAIC VIRUS	182-205								
PVHEL_PMV	PROBABLE HELICASE			PAPAYA MOSAIC POTEXVIRUS	153-168								
PV101_VACCC	PROTEIN 11			VACCINIA VIRUS (STRAIN COPENHAGEN)	120-135								
PV101_VARV	PROTEIN 11			VARIOLA VIRUS	120-135								
PV103_VACCC	PROTEIN 13			VACCINIA VIRUS (STRAIN COPENHAGEN)	194-220								
PV103_VACCV	PROTEIN 13			VACCINIA VIRUS (STRAIN WR)	194-220								
PV103_VARV	PROTEIN 13			VARIOLA VIRUS	194-220								
PV106_VACCV	PROTEIN 16			VACCINIA VIRUS (STRAIN WR)	106-128	133-155							
PV106_VARV	PROTEIN 16			VARIOLA VIRUS	106-128	133-155							
PV107_VACCC	PROTEIN 17			VACCINIA VIRUS (STRAIN COPENHAGEN)	13-34	344-367							
PV107_VACCV	PROTEIN 17			VACCINIA VIRUS (STRAIN WR)	13-34	344-367							
PV107_VARV	PROTEIN 17			VARIOLA VIRUS	13-34	344-367							
PV108_VACCC	PUTATIVE RNA HELICASE 18			VACCINIA VIRUS (STRAIN COPENHAGEN)	196-212	418-438							
PV108_VACCV	PUTATIVE RNA HELICASE 18			VACCINIA VIRUS (STRAIN WR)	196-212	418-438							
PV108_VARV	PUTATIVE RNA HELICASE 18			VARIOLA VIRUS	196-212	418-438							
PV1E1_HCMVA	55 KD IMMEDIATE-EARLY PROTEIN 1			HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	77-100	333-350							
PV1E1_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN 1			HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	77-100	333-350							
PV1E2_HCMVA	45 KD IMMEDIATE-EARLY PROTEIN 2			HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	14-32	389-406							
PV1E2_HCMVT	45 KD IMMEDIATE-EARLY PROTEIN 2			HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	14-32	388-405							
PV1E2_MCMVS	IMMEDIATE-EARLY PROTEIN 2			MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	251-272								
PV1E2_HCMVT	30 KD IMMEDIATE-EARLY PROTEIN 2			HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	14-32								
PV1E3_HSVSA	IMMEDIATE-EARLY PROTEIN IE-3			HERPESVIRUS SAIMIRI (STRAIN 11)	65-80								
PV1E3_HSVSA	IMMEDIATE-EARLY PROTEIN IE-3			AUTOGRAPIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	100-116	273-290							
PV1E3_HSVSA	IMMEDIATE-EARLY PROTEIN IE-3			EPSTEIN-BARR VIRUS (STRAIN B95-8)	75-100	125-152	203-222						
PV1E3_HSVSA	IMMEDIATE-EARLY PROTEIN IE-3			HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	68-89	190-217							
PV1E3_HSVSA	IMMEDIATE-EARLY PROTEIN IE-3			HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	81-110	250-270							
PV1E3_HSVSA	IMMEDIATE-EARLY PROTEIN IE-3			EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	24-49	93-120	145-172	247-263	301-321	332-358			
PV1E3_HSVSA	IMMEDIATE-EARLY PROTEIN IE-3			HERPESVIRUS SAIMIRI (STRAIN 11)	76-101	319-331							

PCGENE	PICTLZIP	FILE NAME	PROTEIN	ALL Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVMP_V2VD	PROTEIN	PVMP_V2VD	PROTEIN	VIRUS	21-47	154-181	230-252						
PV01_VACCC	PROTEIN J1	PV01_VACCC	PROTEIN J1	VACCINIA-ZOSTER VIRUS (STRAIN DUMAS)	89-110								
PV01_VACCV	PROTEIN J1	PV01_VACCV	PROTEIN J1	VACCINIA VIRUS (STRAIN COPENHAGEN)	89-110								
PV01_VACCV	PROTEIN J1	PV01_VACCV	PROTEIN J1	VACCINIA VIRUS (STRAIN WR)	89-110								
PV04_VACCC	PROTEIN K4	PV04_VACCC	PROTEIN K4	VARIOLA VIRUS	87-113	208-214	319-337						
PV04_VACCV	PROTEIN K4	PV04_VACCV	PROTEIN K4	VACCINIA VIRUS (STRAIN COPENHAGEN)	87-113	208-224	319-337						
PV05_VACCC	PROTEIN K5	PV05_VACCC	PROTEIN K5	VACCINIA VIRUS (STRAIN COPENHAGEN)	106-133								
PV05_VACCV	PROTEIN L2	PV05_VACCV	PROTEIN L2	VACCINIA VIRUS (STRAIN COPENHAGEN)	39-61								
PV02_VACCV	PROTEIN L2	PV02_VACCV	PROTEIN L2	VACCINIA VIRUS (STRAIN WR)	39-61								
PV02_VACCV	PROTEIN L2	PV02_VACCV	PROTEIN L2	VARIOLA VIRUS	39-61								
PV03_VACCC	PROTEIN L3	PV03_VACCC	PROTEIN L3	VACCINIA VIRUS (STRAIN COPENHAGEN)	148-164	186-208	292-315						
PV03_VACCV	PROTEIN L3	PV03_VACCV	PROTEIN L3	VACCINIA VIRUS (STRAIN WR)	148-164	186-208	292-315						
PV03_VACCV	PROTEIN L3	PV03_VACCV	PROTEIN L3	VARIOLA VIRUS	147-163	185-207	291-314						
PV05_VACCV	PROTEIN L3	PV05_VACCV	PROTEIN L3	VACCINIA VIRUS (STRAIN WR, AND (STRAIN COPENHAGEN)	16-39								
PV05_VACCV	PROTEIN L3	PV05_VACCV	PROTEIN L3	VARIOLA VIRUS	16-39								
PV11_CRPVK	PROTEIN L1	PV11_CRPVK	PROTEIN L1	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	299-317								
PV11_HPVI8	PROTEIN L1	PV11_HPVI8	PROTEIN L1	HUMAN PAPILLOMAVIRUS TYPE 18	28-55								
PV11_HPVI4	PROTEIN L1	PV11_HPVI4	PROTEIN L1	HUMAN PAPILLOMAVIRUS TYPE 41	38-63								
PV11_REOVD	MAJOR CORE PROTEIN LAMBDA 1	PV11_REOVD	MAJOR CORE PROTEIN LAMBDA 1	REOVIRUS (TYPE 3 / STRAIN DEARING)	327-346	351-366	752-774						
PV12_HPVI8	PROTEIN L2	PV12_HPVI8	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 8	234-270								
PV12_HPVI1	PROTEIN L2	PV12_HPVI1	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 11	32-58								
PV12_HPVI3	PROTEIN L2	PV12_HPVI3	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 13	33-59								
PV12_HPVI6	PROTEIN L2	PV12_HPVI6	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 16	34-60								
PV12_HPVI8	PROTEIN L2	PV12_HPVI8	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 18	33-59								
PV12_HPVI4	PROTEIN L2	PV12_HPVI4	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 14	213-228								
PV12_HPVI2A	PROTEIN L2	PV12_HPVI2A	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 1A	88-114								
PV12_HPVI3	PROTEIN L2	PV12_HPVI3	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 31	34-60	443-462							
PV12_HPVI3	PROTEIN L2	PV12_HPVI3	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 33	33-59	99-114							
PV12_HPVI4	PROTEIN L2	PV12_HPVI4	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 35	34-60								
PV12_HPVI4	PROTEIN L2	PV12_HPVI4	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 41	39-58	414-436							
PV12_HPVI4	PROTEIN L2	PV12_HPVI4	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 42	33-59	344-370							
PV12_HPVI7	PROTEIN L2	PV12_HPVI7	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 47	250-265								
PV12_HPVI7	PROTEIN L2	PV12_HPVI7	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 57	32-58								
PV12_HPVI8	PROTEIN L2	PV12_HPVI8	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 58	33-59	99-114							
PV12_HPVI8	PROTEIN L2	PV12_HPVI8	PROTEIN L2	HUMAN PAPILLOMAVIRUS TYPE 68	33-59								
PV12_PAPVE	PROTEIN L2	PV12_PAPVE	PROTEIN L2	EUROPEAN ELK PAPILLOMAVIRUS	30-56								
PV12_HPVI1	PROTEIN L3	PV12_HPVI1	PROTEIN L3	RHESUS PAPILLOMAVIRUS TYPE 1	45-71								
PV12_HPVI8	PROTEIN L3	PV12_HPVI8	PROTEIN L3	HUMAN PAPILLOMAVIRUS TYPE 58	6-28								
PV13_REOVD	MINOR CORE PROTEIN LAMBDA 3	PV13_REOVD	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 3 / STRAIN DEARING)	714-737	1213-1236							
PV13_REOVI	MINOR CORE PROTEIN LAMBDA 3	PV13_REOVI	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 2 / STRAIN D3/ONES)	714-737								
PV13_REOVL	MINOR CORE PROTEIN LAMBDA 3	PV13_REOVL	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 1 / STRAIN LANG)	714-737								
PV16_IRVI	L96 PROTEIN	PV16_IRVI	L96 PROTEIN	TIPULA IRIDESCENT VIRUS (TIV) (INSECT IRIDESCENT VIRUS TYPE 1)	144-170	196-220	686-711	845-861					
PV01_VACCC	PROTEIN M1	PV01_VACCC	PROTEIN M1	VACCINIA VIRUS (STRAIN COPENHAGEN)	134-159	177-195	281-302						
PV01_VACCV	PROTEIN M1	PV01_VACCV	PROTEIN M1	VACCINIA VIRUS (STRAIN WR)	83-108	126-144	216-251						
PV01_VACCV	PROTEIN M1	PV01_VACCV	PROTEIN M1	VARIOLA VIRUS	81-106	124-142	228-249						
PV01_REOVD	MINOR VIRION STRUCTURAL PROTEIN MU-2	PV01_REOVD	MINOR VIRION STRUCTURAL PROTEIN MU-2	REOVIRUS (TYPE 3 / STRAIN DEARING)	141-168	227-245	280-304	324-347	414-436	454-477			
PV01_REOVL	MINOR VIRION STRUCTURAL PROTEIN MU-2	PV01_REOVL	MINOR VIRION STRUCTURAL PROTEIN MU-2	REOVIRUS (TYPE 1 / STRAIN LANG)	141-168	227-245	280-304	324-347	414-436	454-477			
PV02_REOVD	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IC	PV02_REOVD	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IC	REOVIRUS (TYPE 3 / STRAIN DEARING)	168-192								
PV02_REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IC	PV02_REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IC	REOVIRUS (TYPE 3 / STRAIN DEARING)	168-192								
PV02_REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IC	PV02_REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IC	REOVIRUS (TYPE 2 / STRAIN D3/ONES)	168-192								
PV02_REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IC	PV02_REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IC	REOVIRUS (TYPE 1 / STRAIN LANG)	168-192								
PV03_REOVD	MAJOR NONSTRUCTURAL PROTEIN MU-NS	PV03_REOVD	MAJOR NONSTRUCTURAL PROTEIN MU-NS	REOVIRUS (TYPE 3 / STRAIN DEARING)	304-326	321-540							
PV04_BRSA	MATRIX PROTEIN	PV04_BRSA	MATRIX PROTEIN	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	37-62								
PV04_CDVO	MATRIX PROTEIN	PV04_CDVO	MATRIX PROTEIN	CANINE DISTEMPER VIRUS (STRAIN UNDERSTPOORT)	148-165	283-309							
PV04_HRSVA	MATRIX PROTEIN	PV04_HRSVA	MATRIX PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	44-62	139-160							
PV04_LPMV	MATRIX PROTEIN	PV04_LPMV	MATRIX PROTEIN	LA PIEDAD-MICHOACAN-MEXICO VIRUS	311-338								
PV04_MEASE	MATRIX PROTEIN	PV04_MEASE	MATRIX PROTEIN	MEASLES VIRUS (STRAIN EDMONSTON)	283-309								

PGCENE	PICTZIP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVMA1_MEASH	MATRIX PROTEIN	MEASLES VIRUS (STRAIN HALLE)	283-309								
PVMA1_MEAS1	MATRIX PROTEIN	MEASLES VIRUS (STRAIN IP-3-CA)	87-111								
PVMA1_MEASU	MATRIX PROTEIN	MEASLES VIRUS (STRAIN HU2)	283-309								
PVMA1_MUMPI	MATRIX PROTEIN	MUMPS VIRUS (STRAIN SBL-1)	191-207	227-250	310-330						
PVMA1_MUMPS	MATRIX PROTEIN	MUMPS VIRUS (STRAIN SBL)	191-207	227-250	310-330						
PVMA1_NDVA	MATRIX PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/32)	135-151	190-208	309-329						
PVMA1_NDVB	MATRIX PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/45)	135-151	190-208	309-329						
PVMA1_PIHHC	MATRIX PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	195-217								
PVMA1_PIZHT	MATRIX PROTEIN	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA) (PIV-2)	132-154	189-205	308-328						
PVMA1_P14HA	MATRIX PROTEIN	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA) (PIV-4A)	312-332								
PVMA1_P14HB	MATRIX PROTEIN	HUMAN PARAINFLUENZA 4B VIRUS (STRAIN TOSHIBA) (PIV-4B)	312-332								
PVMA1_RNDK	MATRIX PROTEIN	RINDERPEST VIRUS (STRAIN KABETE O)	200-221	239-260	383-309						
PVMA1_SENDF	MATRIX PROTEIN	SENDAI VIRUS (STRAIN FUSHIMI)	195-217								
PVMA1_SENDH	MATRIX PROTEIN	SENDAI VIRUS (STRAIN HARRIS)	195-217								
PVMA1_SENDZ	MATRIX PROTEIN	SENDAI VIRUS (STRAIN Z)	195-217								
PVMA1_SSPVB	MATRIX PROTEIN	SUBACUTE SCLEROSING PANENCEPHALITIS VIRUS (STRAIN BIKEN)	283-309	314-338							
PVMA1_SV41	MATRIX PROTEIN	SIMIAN VIRUS 41	132-154	189-205	308-328						
PVMA1_SV5	MATRIX PROTEIN	SIMIAN VIRUS 5 (STRAIN W3)	98-114	132-148	308-335						
PVMA1_SVCV	MATRIX PROTEIN	SPRING VIREMIA OF CARP VIRUS (RHADDOVIRUS CARPIA)	141-167								
PVMA1_TRTV	MATRIX PROTEIN	TURKEY RHINOTRACHEITIS VIRUS	122-143								
PVME1_CVBM	E1 GLYCOPROTEIN	BOVINE CORONAVIRUS (STRAIN MEBUS)	9-36	137-161	171-190						
PVME1_CVH22	E1 GLYCOPROTEIN	HUMAN CORONAVIRUS (STRAIN 229E)	136-155								
PVME1_CVHOC	E1 GLYCOPROTEIN	HUMAN CORONAVIRUS (STRAIN OC43)	9-36	64-85	137-161						
PVME1_CVMA5	E1 GLYCOPROTEIN	MURINE CORONAVIRUS MHV (STRAIN A59)	10-37								
PVME1_CVMJH	E1 GLYCOPROTEIN	MURINE CORONAVIRUS MHV (STRAIN HM6)	10-37								
PVME1_CVPFS	E1 GLYCOPROTEIN	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 174-193)	174-193								
PVME1_CVPPU	E1 GLYCOPROTEIN	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 169-193)	169-193	174-193							
PVME1_CVPRM	E1 GLYCOPROTEIN	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	174-193								
PVME1_CVTKE	E1 GLYCOPROTEIN	TURKEY ENTERIC CORONAVIRUS	9-36	137-161	171-190						
PVME1_IBV6	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN 682)	74-98								
PVME1_IBV8	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	74-101								
PVME1_IBV2	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE N42)	74-101								
PVME1_IBVK	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB5533)	74-98								
PVME1_EBV	PROBABLE MEMBRANE PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	131-157	178-203							
PVMP_CMYC	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	118-134	147-164	183-201						
PVMP_CMYD	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/H)	118-134	147-164	183-201						
PVMP_CMYE	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BBC)	118-134	147-164	183-201						
PVMP_CMYN	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	118-134	147-164	183-201						
PVMP_CMYV	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	118-134	147-164	183-201						
PVMP_CMYW	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN W260)	118-134	147-164	183-201						
PVMP_CERY	MOVEMENT PROTEIN	CARNATION ETCHED RING VIRUS	293-318								
PVMP_FMYD	MOVEMENT PROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	115-131	180-198							
PVMP_SOCAY	MOVEMENT PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	122-147	275-299							
PVMSA_HPBDB	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (BROWN SHANGHAI DUCK ISOLATE S5)	201-228	269-295							
PVMSA_HPBDC	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (STRAIN CHINA)	194-221	268-294							
PVMSA_HPBDD	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS	157-184	231-257							
PVMSA_HPBDF	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE S31)	194-221	269-295							
PVMSA_HPBGS	MAJOR SURFACE ANTIGEN PRECURSOR	GROUND SQUIRREL HEPATITIS VIRUS	209-236	271-295	380-395						
PVMSA_HPBHE	MAJOR SURFACE ANTIGEN	HERON HEPATITIS B VIRUS	236-262	293-320							
PVMSA_HPBH6	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS	11-28	70-96							
PVMSA_HPBH2	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW2)	185-202	244-270							
PVMSA_HPBH4	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADH4)	185-202	244-270							
PVMSA_HPBH9	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN 991)	244-270								
PVMSA_HPBVA	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (STRAIN ALPHA1)	174-191	233-259							
PVMSA_HPBVD	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE AD)	11-28	70-96							
PVMSA_HPBVI	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN INDONESIA/PIDW420)	233-259								
PVMSA_HPBVI	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN JAPAN/PIDW233)	174-191	233-259							

PCGENE		P12C1T2LP	All Viruses (No Bacteriophage)								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVNS1 JAMAN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN AMALLARD/NEW YORK/6750/78)	31-50	167-192							
PVNS1 JAMAO	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN AMALLARD/NEW YORK/6814/78)	31-50	167-192							
PVNS1 JAMYN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN AMYNAHAN/EDENHED-THA/76)	28-47	164-189							
PVNS1 JAP10	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERTA/11/79)	167-192								
PVNS1 JAP11	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERTA/11/79)	31-50	167-192							
PVNS1 JAP12	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERTA/12/79)	31-50	167-192							
PVNS1 JAP13	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERTA/12/79)	31-50	167-192							
PVNS1 JAPUE	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERTA/12/79)	31-50	167-192							
PVNS1 LATKB	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERTA/12/79)	31-50	167-192							
PVNS1 LATKC	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERTA/12/79)	31-50	167-192							
PVNS1 LATRS	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN ATURKEY/BETHLEHEM-GILITI/1492-BK/31-50)	31-50	167-192							
PVNS1 LATRT	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN ATURKEY/BETHLEHEM-GILITI/1492-BK/31-50)	31-50	167-192							
PVNS1 LAUDS	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN ATURKEY/BETHLEHEM-GILITI/1492-BK/31-50)	31-50	167-192							
PVNS1 LAZ11	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN ASWINE/TOW/15/30)	222-248								
PVNS1 INCAA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA C VIRUS (STRAIN C/ALF/ALF/1/50)	222-248								
PVNS2 BTY10	NONSTRUCTURAL PROTEIN NS2	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	145-161	201-223							
PVNS2 BTY17	NONSTRUCTURAL PROTEIN NS2	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	145-161	201-223							
PVNS2 BTY15	NONSTRUCTURAL PROTEIN NS2	BLUETONGUE VIRUS (SEROTYPE 15 / ISOLATE SOUTH AFRICA)	145-161								
PVNS2 BTYX	NONSTRUCTURAL PROTEIN NS2	BLUETONGUE VIRUS (SEROTYPE 10)	145-161								
PVNS2 EHDV2	NONSTRUCTURAL PROTEIN NS2	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 2 / STRAIN AL)	145-161								
PVNS2 LAPUE	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN APINTAIL/ALBERTA/12/79)	31-50	167-192							
PVNS2 LATRS	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN ATURKEY/BETHLEHEM-GILITI/1492-BK/31-50)	31-50	167-192							
PVNS2 PVM	NONSTRUCTURAL PROTEIN 2	PNEUMONIA VIRUS OF MICE	52-68								
PVNS3 CVPF5	NONSTRUCTURAL PROTEIN 3-1	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	177-201								
PVNS3 CVPPU	NONSTRUCTURAL PROTEIN 3-1	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	98-122								
PVNS3 CVPRM	NONSTRUCTURAL PROTEIN 3-1	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	177-201								
PVNS3 RSV	NONSTRUCTURAL PROTEIN NS3	RICE STRIKE VIRUS	16-40								
PVNS4 CVH22	NONSTRUCTURAL PROTEIN 4	HUMAN CORONAVIRUS (STRAIN 229E)	16-40								
PVNS4 CYMS	NONSTRUCTURAL PROTEIN 4	MURINE CORONAVIRUS MHV (STRAIN S)	17-38								
PVNS4 CVFVS	NONSTRUCTURAL PROTEIN 4	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	4-31								
PVNS4 CVPPU	NONSTRUCTURAL PROTEIN 4	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	4-31								
PVNS4 CVPRM	NONSTRUCTURAL PROTEIN 4	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	4-31								
PVNS4 MSTV	NONSTRUCTURAL PROTEIN NS4	MAIZE STRIKE VIRUS	41-56								
PVNS4 RSV	NONSTRUCTURAL PROTEIN NS4	RICE STRIKE VIRUS	41-56	60-82	152-167						
PVNS7 CVFEJ	NONSTRUCTURAL PROTEIN 7	FELINE ENTERIC CORONAVIRUS (STRAIN 79-1683)	59-84								
PVNS7 FIPV	NONSTRUCTURAL PROTEIN 7	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	59-84								
PVNSC PI1HB	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C35)	76-92								
PVNSC PI1HC	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	76-92								
PVNSC PI1HD	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN CI-5/73)	76-92	179-197							
PVNSC PI1HE	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN CI-14/83)	76-92								
PVNS7 CVBQ	32 KD NONSTRUCTURAL PROTEIN	BOVINE CORONAVIRUS (STRAIN QUEBEC)	88-109								
PVNS7 INCL	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/GREAT LAKES/167/54)	222-248								
PVNS7 INCH	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/JOHANNESBURG/1/66)	222-248								
PVNS7 INCM	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/MISSISSIPPI/80)	222-248								
PVNS7 INCYA	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/YAMAGATA/108/1)	222-248								
PVNS7 PTPV	NONSTRUCTURAL PROTEIN NS-5	PUNTA TORO PHLEBOVIRUS	48-63								
PVNS7 SFVS	NONSTRUCTURAL PROTEIN NS-5	SANDFLY FEVER SICILIAN VIRUS	16-34								
PVNS7 UJK	NONSTRUCTURAL PROTEIN NS-5	LUKUNEMI VIRUS	52-73	89-104							
PVNS7 PRVA	PROBABLE NUCLEAR ANTIGEN	PEUDORABIES VIRUS (STRAIN KAPLAN)	736-777	1563-1583							
PVNUC DHVI	NUCLEOPROTEIN	DHORI VIRUS (STRAIN INDIAN/11/13/61)	123-139	297-324							
PVNUC EBOV	NUCLEOPROTEIN	EBOLA VIRUS	159-176								
PVNUC JAANA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ANAS ACUTA/PRIMORJE/695/76)	173-197	266-287							
PVNUC JAAN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/66)	173-197								
PVNUC JAAB	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/BRAZIL/1/78)	173-197								

PCGENE	PICTLZIP	All Viruses (No Bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PVNUC_IABUD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ABUDGERIGARHOKKAIDO/177)	173-197								
PVNUC_IACAL	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ACALIFORNIA/1078)	173-197								
PVNUC_IACKG	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ACHICKENGERMANY/49)	173-197								
PVNUC_IACKP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ACHICKENPENNSYLVANIA/183)	173-197								
PVNUC_IADAU	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKAUSTRALIA/749/80)	173-197								
PVNUC_IADBE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKBEIJING/178)	173-197								
PVNUC_IADCCZ	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKCZECHOSLOVAKIA/56)	173-197								
PVNUC_IADCI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKENGLAND/156)	173-197								
PVNUC_IADDE1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKENGLAND/162)	173-197								
PVNUC_IADDE2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKHONG KONG/775)	173-197								
PVNUC_IADHKK	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKHONG KONG/775)	173-197								
PVNUC_IADH2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKMEXICO/287/4)	173-197								
PVNUC_IADMA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKMANITOBA/153)	173-197								
PVNUC_IADNZ	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKNEW ZEALAND/176)	173-197								
PVNUC_IADU2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ADUCKUKRAINE/260)	173-197								
PVNUC_IADN3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AENGLAND/1955)	173-197								
PVNUC_IADN4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AENGLAND/1955)	173-197								
PVNUC_IADN5	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AFORT MONMOUTH/147)	173-197								
PVNUC_IADN6	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AFORT WARREN/150)	173-197								
PVNUC_IADN7	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AFOWL PLAGUE VIRUS/ROSTOCK/34)	173-197								
PVNUC_IADN8	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGREY TEAL/AUSTRALIA/279)	173-197								
PVNUC_IADN9	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGULLMARYLAND/577)	173-197								
PVNUC_IADU1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGULLMARYLAND/704/77)	173-197								
PVNUC_IADU2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGULLMARYLAND/1824/78)	173-197								
PVNUC_IADU3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGULLMARYLAND/1815/79)	173-197								
PVNUC_IADU4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGULLASTRAKHAN/227/84)	173-197								
PVNUC_IADU5	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGULLMASSACHUSETTS/268/80)	173-197								
PVNUC_IADU6	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AGULLMINNESOTA/945/80)	173-197								
PVNUC_IADU7	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AHICKOX/40)	173-197								
PVNUC_IADU8	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AVEQUINE/ILLINOIS/189)	173-197								
PVNUC_IADU9	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AVEQUINE/LONDON/1416/73)	173-197								
PVNUC_IADU10	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AVEQUINE/MIAM/163)	173-197								
PVNUC_IADU11	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AHONG KONG/168)	173-197								
PVNUC_IADU12	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AHONG KONG/583)	173-197								
PVNUC_IADU13	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AVEQUINE/PRAQUE/156)	173-197								
PVNUC_IADU14	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AVEQUINE/TENNESSEE/586)	173-197								
PVNUC_IADU15	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AKIEV/597/9)	173-197								
PVNUC_IADU16	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ALENINGRAD/54/1)	173-197								
PVNUC_IADU17	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AMALLARD/ASTRAKHAN/244/82)	173-197								
PVNUC_IADU18	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AMALLARD/NEW YORK/6750/78)	173-197								
PVNUC_IADU19	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AMINK/SWEDEN/84)	173-197								
PVNUC_IADU20	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ANTI/60/68)	173-197								
PVNUC_IADU21	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AOHIO/493)	173-197								
PVNUC_IADU22	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN APARROT/ULSTER/71)	173-197								
PVNUC_IADU23	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN APuerto Rico/834)	173-197								
PVNUC_IADU24	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ARUDY TURNSTONE/NEW JERSEY/471)	173-197								
PVNUC_IADU25	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASEA/MASSACHUSETTS/1/80)	173-197								
PVNUC_IADU26	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASHEARWATER/AUSTRALIA/72)	173-197								
PVNUC_IADU27	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ASINGAPORE/157)	173-197								
PVNUC_IADU28	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATEALICELAND/298/80)	173-197								
PVNUC_IADU29	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATURKEY/MINNESOTA/166/81)	173-197								
PVNUC_IADU30	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATURKEY/ONTARIO/712/66)	173-197								
PVNUC_IADU31	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATENNSOUTH AFRICA/61)	173-197								
PVNUC_IADU32	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATERN/TURKMENIA/187/72)	173-197								
PVNUC_IADU33	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ATEN/177)	173-197								
PVNUC_IADU34	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AUDORN/301/72)	173-197								
PVNUC_IADU35	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AUSSR/90/77)	173-197								
PVNUC_IADU36	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AVICTORIA/568)	173-197								

PCGENE	PICTLZIP	PROTEIN	ALL Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVP21_VZVD	PROTEIN	PROBABLE CAPSID PROTEIN VP23	VIRUS	117-132								
PVP26_NPVAC	P26 PROTEIN		VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	12-31	58-76	117-141						
PVP2_AHSV4	OUTER CAPSID PROTEIN VP2		AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	868-891	974-994							
PVP2_BTIV10	OUTER CAPSID PROTEIN VP2		AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	361-381	399-424	564-586	829-849					
PVP2_BTIV11	OUTER CAPSID PROTEIN VP2		BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	361-381	399-424	829-849						
PVP2_BTIV13	OUTER CAPSID PROTEIN VP2		BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	361-381	399-424	829-849						
PVP2_BTIV17	OUTER CAPSID PROTEIN VP2		BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	361-381	420-438	617-632	657-676					
PVP2_BTIV18	OUTER CAPSID PROTEIN VP2		BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	361-381	420-438							
PVP2_BTIV1A	OUTER CAPSID PROTEIN VP2		BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	420-438	634-681							
PVP2_BTIV1S	OUTER CAPSID PROTEIN VP2		BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	14-31	117-140	420-438	654-681					
PVP2_EHDV1	OUTER CAPSID PROTEIN VP2		EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	153-168	229-252							
PVP2_ROTBR	RNA-BINDING PROTEIN VP2		BOVINE ROTAVIRUS (STRAIN RF)	301-317	334-360	522-543	673-699	764-789				
PVP2_ROTBU	RNA-BINDING PROTEIN VP2		BOVINE ROTAVIRUS (STRAIN UK)	301-317	334-360	522-543	673-699	764-789				
PVP2_ROTINW	RNA-BINDING PROTEIN VP2		HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	309-325	342-363	522-553	674-700	774-799				
PVP2_ROTIC	RNA-BINDING PROTEIN VP2		PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	51-75	303-319	408-425	514-535	665-691				
PVP2_ROTIS1	RNA-BINDING PROTEIN VP2		SIMIAN 11 ROTAVIRUS (STRAIN SA11)	34-57	219-240	302-318	335-360	523-544	674-700	765-790		
PVP10_MABVP	MINOR NUCLEOPROTEIN VP30		MARBURG VIRUS (STRAIN MUSOKE)	50-75								
PVP32_ASF7	PHOSPHOPROTEIN P32		AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	174-197								
PVP33_EBOV	POLYMERASE COMPLEX PROTEIN VP33		EBOLA VIRUS	233-256								
PVP33_MABVM	POLYMERASE COMPLEX PROTEIN VP33		MARBURG VIRUS (STRAIN MUSOKE)	49-75	78-104							
PVP33_MABVP	POLYMERASE COMPLEX PROTEIN VP33		MARBURG VIRUS (STRAIN POPP)	49-75	78-104							
PVP33_VACCC	IMMUNODOMINANT ENVELOPE PROTEIN P33		VACCINIA VIRUS (STRAIN COPENHAGEN)	278-304								
PVP33_VACCV	IMMUNODOMINANT ENVELOPE PROTEIN P33		VACCINIA VIRUS (STRAIN WR)	278-304								
PVP33_VARV	IMMUNODOMINANT ENVELOPE PROTEIN P33		VARIOLA VIRUS	279-305								
PVP38_HSVMG	38 KD PHOSPHOPROTEIN		MAREK'S DISEASE HERPESVIRUS (STRAIN GA)	235-270								
PVP38_HSVN	38 KD PHOSPHOPROTEIN		MAREK'S DISEASE HERPESVIRUS (STRAIN MD1/75/R2)	235-270								
PVP39_NPVAC	MAJOR CAPSID PROTEIN		AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	296-311								
PVP39_NPVOP	MAJOR CAPSID PROTEIN		ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	107-134	214-240	295-316						
PVP3_AHSV4	VP3 CORE PROTEIN		AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4/STRAIN VACCINE)	65-85	126-147	215-230	845-862					
PVP3_BTIV10	VP3 CORE PROTEIN		BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	123-144	212-227							
PVP3_BTIV17	VP3 CORE PROTEIN		BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	123-144	212-227							
PVP3_BTIV1A	VP3 CORE PROTEIN		BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	123-144	212-227							
PVP3_EHDV1	VP3 CORE PROTEIN		EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	121-142	671-695							
PVP3_EHDVA	VP3 CORE PROTEIN		EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 2/STRAIN AUS)	121-142	675-695							
PVP3_RDV	MAJOR 114 KD STRUCTURAL PROTEIN		RICE DWARF VIRUS (RDV)	89-108	340-360	367-393	690-717	742-768	960-975			
PVP3_ROTFC	INNER CORE PROTEIN VP3		PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	405-429								
PVP40_EBV	CAPSID PROTEIN P40		SIMIAN 11 ROTAVIRUS (STRAIN SA11)	401-425	426-444	512-536	796-822					
PVP40_HSV11	CAPSID PROTEIN P40		EPSTEIN-BARR VIRUS (STRAIN B95-8)	429-454								
PVP40_HSVB	CAPSID PROTEIN P40		HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN AB4P)	141-168	472-492							
PVP40_HSVSA	CAPSID PROTEIN P40		EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	50-67	95-119	483-504						
PVP40_ILTV1	CAPSID PROTEIN P40		HERPESVIRUS SAIMIRI (STRAIN 11)	342-368								
PVP40_MABVM	MATRIX PROTEIN VP40		INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	506-528								
PVP40_MABVP	MATRIX PROTEIN VP40		MARBURG VIRUS (STRAIN MUSOKE)	95-110								
PVP40_NPVBM	STRUCTURAL GLYCOPROTEIN P40		MARBURG VIRUS (STRAIN POPP)	95-110								
PVP40_VZVD	CAPSID PROTEIN VP24		BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS	223-242	236-272							
PVP41_NPVAC	STRUCTURAL GLYCOPROTEIN P41		VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	47-64								
PVP41_ROTIS1	OUTER CAPSID PROTEIN VP4		AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	229-248	262-278							
PVP42_ROTIS1	OUTER CAPSID PROTEIN VP4		SIMIAN 11 ROTAVIRUS (STRAIN SA11)	483-508								
PVP43_NPVAC	VIRAL TRANSCRIPTION REGULATOR P47		SIMIAN 11 ROTAVIRUS (STRAIN SA11)	395-411	483-508							
PVP43_NPVOP	P48 PROTEIN		AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	14-38								
PVP44_VARY	MAJOR CORE PROTEIN P44 PRECURSOR		ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	136-157								
PVP44_VACCC	MAJOR CORE PROTEIN P44 PRECURSOR		VARIOLA VIRUS	273-288								
PVP44_VACCV	MAJOR CORE PROTEIN P44 PRECURSOR		VACCINIA VIRUS (STRAIN COPENHAGEN)	331-358								
PVP44_VARY	MAJOR CORE PROTEIN P44 PRECURSOR		VACCINIA VIRUS (STRAIN WR)	331-358								
PVP4_BTIV10	VP4 CORE PROTEIN		BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	174-193	233-249	545-561						
PVP4_BTIV11	VP4 CORE PROTEIN		BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	174-193	233-249	535-551						
PVP4_BTIV13	VP4 CORE PROTEIN		BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	174-193	233-249	535-551						

PCGENE	P12CTL2IP	All Viruses (No. Bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	VIRUS									
PVP4 BTVA	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	174-193	233-249	535-551						
PVP4 NCDV	OUTER CAPSID PROTEIN VP4	NEDSKA CALF DIARRHEA VIRUS (STRAIN NCDV-LINCOLN)	483-508								
PVP4 RDV	NONSTRUCTURAL PROTEIN PNS4	RICE DWARF VIRUS	386-407	491-514	626-645						
PVP4 ROTB4	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN B641)	483-508								
PVP4 ROTBC	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN C486)	483-508								
PVP4 ROTBU	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN UK)	483-508								
PVP4 ROTBH	OUTER CAPSID PROTEIN VP4	EQUINE ROTAVIRUS (STRAIN H-2)	226-250	483-508							
PVP4 ROTHI	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 1076)	181-207	234-249	482-507						
PVP4 ROTH5	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN RV-5)	181-207	234-249	482-507						
PVP4 ROTH6	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 69N1)	483-508								
PVP4 ROTHID	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)	181-207	234-249	482-507						
PVP4 ROTHJ	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN K3)	483-508	524-548							
PVP4 ROTHK	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN KU)	76-91	181-207	234-249	482-507					
PVP4 ROTHL	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN L26)	181-207	234-249	482-507						
PVP4 ROTHM	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN M37)	181-207	234-249	482-507						
PVP4 ROTHN	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN MCN13)	181-207	235-250	483-508						
PVP4 ROTHP	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN P)	181-207	234-249	482-507						
PVP4 ROTHT	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN ST THOMAS 3)	181-207	234-249	482-507						
PVP4 ROTHV	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN VA70)	181-207	482-507							
PVP4 ROTHW	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	181-207	482-507							
PVP4 ROTPS	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)	235-250	483-508							
PVP4 ROTPC	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	487-512								
PVP4 ROTPG	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	234-249	482-507							
PVP4 ROTPY	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN YM)	235-250	483-508							
PVP4 ROTRH	OUTER CAPSID PROTEIN VP4	RHESUS ROTAVIRUS	483-508								
PVP4 ROTSF	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN S11-PEM)	483-508								
PVP4 ROTSS	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN S11-SEM)	395-411	483-508							
PVP4 SBMV	P4 PROTEIN	SOUTHERN BEAN MOSAIC VIRUS	90-114								
PVP4 WTV	NONSTRUCTURAL PROTEIN PNS4	WOUND TUMOR VIRUS	192-215	416-438	498-519	564-591					
PVP5 BTV10	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	295-317	326-345	494-517						
PVP5 BTV11	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	295-317	326-345	494-517						
PVP5 BTV13	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	295-317	494-517							
PVP5 BTV1A	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	87-102	295-317							
PVP5 BTV1S	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	295-317								
PVP5 BTV2A	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	295-317								
PVP5 RDV	OUTER COAT PROTEIN P5	RICE DWARF VIRUS	265-284	622-639	690-715						
PVP6 BTV10	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	9-27	232-249	261-276						
PVP6 NPVAC	61 KD PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	321-337	438-462							
PVP62 BTV10	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	5-23	257-272							
PVP62 MRDV	PROB NONSTRUCTURAL 36.3 KD PROTEIN	MAIZE ROUGH DWARF VIRUS	130-146								
PVP64 NPVOP	MAJOR ENV GLYCOPROTEIN PREC	ORGANIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	81-99	235-252	286-313						
PVP67 NPVGM	MAJOR ENV GLYCOPROTEIN PREC	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	84-102	238-255							
PVP6 BTV11	VP6 PROTEIN	GALLERIA MELLONELLA NUCLEAR POLYHEDROSIS VIRUS	155-172								
PVP6 BTV13	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	5-23	228-245	257-272						
PVP6 BTV17	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	5-23	228-245	257-272						
PVP6 BTV1S	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	9-27	232-249	261-276						
PVP6 BTV2A	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	204-221	233-248							
PVP6 WTV	STRUCTURAL PROTEIN P6	WOUND TUMOR VIRUS	374-397								
PVP6 WTVN1	STRUCTURAL PROTEIN P6	WOUND TUMOR VIRUS (STRAIN NJ)	374-397								
PVP74 NPVAC	P74 PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	254-275								
PVP75 HVSVA	PROBABLE MEMBRANE ANTIGEN 75	HERPESVIRUS SAIMIRI (STRAIN 11)	127-147								
PVP79 NPVAC	79 KD PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	274-301	405-420	678-704						
PVP7 BTV13	VP7 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	197-222								
PVP7 EHDV1	VP7 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	205-222	301-323							
PVP7 RDV	NONSTRUCTURAL PROTEIN PNS7	RICE DWARF VIRUS	400-416								
PVP7 WTV	NONSTRUCTURAL PROTEIN PNS7	WOUND TUMOR VIRUS	262-285								

PCGENE	FILE NAME	PROTEIN	PI1CT12/P	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVP80 NPVAC	CAPSID PROTEIN P80			AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	98-123	638-660							
PVP81 NPVOP	CAPSID PROTEIN P87			ORGANIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	571-593								
PVP8 BTVI0	NONSTRUCTURAL PROTEIN P8			BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	104-120								
PVP8 BTVI1	NONSTRUCTURAL PROTEIN P8			BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	104-120								
PVP8 BTVI3	NONSTRUCTURAL PROTEIN P8			BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	104-120								
PVP8 BTVI7	NONSTRUCTURAL PROTEIN P8			BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	104-120								
PVP8 BTVI1A	NONSTRUCTURAL PROTEIN P8			BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	104-120								
PVP8 BTVI5	NONSTRUCTURAL PROTEIN P8			BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	104-120								
PVP8 BTVI2A	NONSTRUCTURAL PROTEIN P8			BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	104-120								
PVP8 RDV	OUTER CAPSID PROTEIN P8			RICE DWARF VIRUS	374-400								
PVP8 RDV	OUTER CAPSID PROTEIN P8			RICE GALL DWARF VIRUS	177-202	216-242	398-425						
PVP8 VACCC	STRUCTURAL PROTEIN P8 PRECURSOR			VACCINIA VIRUS (STRAIN COPENHAGEN)	225-242								
PVP8 VACCV	STRUCTURAL PROTEIN P8 PRECURSOR			VACCINIA VIRUS (STRAIN WR)	225-242								
PVP8 VARV	STRUCTURAL PROTEIN P8 PRECURSOR			VAROLA VIRUS	225-242								
PVP8 WTV	OUTER CAPSID PROTEIN P8			WOUND TUMOR VIRUS	111-129	214-241	251-271	379-405					
PVP8 RDV	NONSTRUCTURAL PROTEIN P8			RICE DWARF VIRUS	51-72								
PVP8 RDV	NONSTRUCTURAL PROTEIN P8			RICE GALL DWARF VIRUS	151-175								
PVP8 NPVAC	29 KD POLYHEDRAL ENVELOPE PROTEIN			AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	145-166	225-245							
PVP8 NPVOP	32 KD POLYHEDRAL ENVELOPE PROTEIN			ORGANIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	122-144								
PVPRT ADEI2	ENDOPROTEASE			HUMAN ADENOVIRUS TYPE 12	161-181								
PVPRT MMVVB	PROTEASE			MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	42-63								
PVPRT MPV	PROTEASE			SIMIAN MASON-PFIZER VIRUS	80-99								
PVPRT SMRVH	PROTEASE			SQUIRREL MONKEY RETROVIRUS	256-271								
PVPRT SRV1	PROTEASE			SIMIAN RETROVIRUS SRV-1	80-99								
PVPV HVB1	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (B1110 ISOLATE HXB13)	3-27								
PVPV HVB1B	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (B118 ISOLATE)	4-27								
PVPV HVB1N	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAIN ISOLATE)	3-28								
PVPV HVB1R	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	3-27								
PVPV HVB1L	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (FELI ISOLATE)	3-26								
PVPV HVB1H	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (H1X12 ISOLATE)	4-27								
PVPV HVB1R	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRC5F ISOLATE)	3-28								
PVPV HVB1A	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NAL ISOLATE)	2-27								
PVPV HVB1M	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NN ISOLATE)	3-20								
PVPV HVB1D	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	3-28								
PVPV HVB1P	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV21 ISOLATE)	3-27								
PVPV HVB1S	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE)	3-28								
PVPV HVB1Z	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SC ISOLATE)	3-28								
PVPV JSRV	VPU PROTEIN			SHEEP PULMONARY ADENOMATOSIS VIRUS (JAA/GSIEKTE SHEEP RET)	24-45								
PVPX HV2BE	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	10-32								
PVPX HV2CA	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAH2)	10-32								
PVPX HV2D1	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	10-32								
PVPX HV2D2	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7)	9-31								
PVPX HV2G1	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	10-32								
PVPX HV2H2	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-2)	10-32								
PVPX HV2R0	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	10-32								
PVPX HV2S3	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBLISY)	10-32								
PVPX HV2ST	VPU PROTEIN			HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	10-32								
PVPX LDV	VPU PROTEIN			LACTATE DEHYDROGENASE-ELEVATING VIRUS	145-165								
PVPX SIVAI	VPU PROTEIN			SIMIAN IMMUNODEFICIENCY VIRUS (S66-84)	10-32								
PVPX SIVM1	VPU PROTEIN			SIMIAN IMMUNODEFICIENCY VIRUS (S66-84)	10-32								
PVPX SIVAK	VPU PROTEIN			SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)	10-32								
PVPX SIVML	VPU PROTEIN			SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	10-32								
PVPX SIVS4	VPU PROTEIN			SIMIAN IMMUNODEFICIENCY VIRUS (P216/SMH4 ISOLATE)	10-32								
PVPX SIVSP	VPU PROTEIN			SIMIAN IMMUNODEFICIENCY VIRUS (P216/SMH4 ISOLATE)	10-32								
PVRNA BSMV	ALPHA-A PROTEIN			BARLEY STRIPE MOSAIC VIRUS (BSMV)	290-312	904-929							
PVS05 ROTBR	NONSTRUCTURAL PROTEIN NCVP2			BOVINE ROTAVIRUS (STRAIN RF)	140-157	461-487							

PCGENE	PICTLZIP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	VIRUS	140-157	428-450	457-473						
PVS05 ROTBI	NONSTRUCTURAL PROTEIN NSVP2	HUMAN ROTAVIRUS (STRAIN 10V-80-3)	NR-112								
PVS05 ROTPC	NONSTRUCTURAL PROTEIN NS3	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	399-414								
PVS05 ROTSI	NONSTRUCTURAL PROTEIN NSVP2	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	202-225								
PVS06 ROTBR	VP6 PROTEIN	BOVINE ROTAVIRUS (STRAIN RF)	64-85								
PVS06 ROTBU	VP6 PROTEIN	BOVINE ROTAVIRUS (STRAIN UK)	202-225								
PVS06 ROTPC	VP6 PROTEIN	BOVINE ROTAVIRUS (STRAIN FI-14)	202-225								
PVS06 ROTSI	VP6 PROTEIN	EQUINE ROTAVIRUS (STRAIN H-2)	202-225								
PVS06 ROTGA	VP6 PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADRV) (ADULT DIARRHEA ROTAVIRUS)	22-40								
PVS06 ROTGI	VP6 PROTEIN	ROTAVIRUS (GROUP B / STRAIN IDIR)	22-40								
PVS06 ROTHI	VP6 PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 1076)	202-225								
PVS06 ROTHC	VP6 PROTEIN	HUMAN ROTAVIRUS (GROUP C / STRAIN BRISTOL)	64-85								
PVS06 ROTHS	VP6 PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN S2)	202-225								
PVS06 ROTHV	VP6 PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	202-225								
PVS06 ROTPC	VP6 PROTEIN	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	64-85	314-340							
PVS06 ROTPG	VP6 PROTEIN	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	202-225								
PVS07 ROTBI	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN KN-4)	131-155								
PVS08 ROTPC	GLYCOPROTEIN VP7 PRECURSOR	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	117-136								
PVS08 ROTSI	NONSTRUCTURAL PROTEIN NSVP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	274-295								
PVS09 ROTB6	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN 61A)	131-155								
PVS09 ROTBA	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN A44)	131-155								
PVS09 ROTBB	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (SEROTYPE 10 / STRAIN B223)	131-155								
PVS09 ROTBK	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN K33)	131-155								
PVS09 ROTBT	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (SEROTYPE 1 / STRAIN T449)	131-155								
PVS09 ROTC7	GLYCOPROTEIN VP7	CHICKEN ROTAVIRUS A (SEROTYPE 7 / STRAIN CH2)	134-158								
PVS09 ROTEL	GLYCOPROTEIN VP7	EQUINE ROTAVIRUS (STRAIN L338)	131-155								
PVS09 ROTGI	GLYCOPROTEIN VP7 PRECURSOR	ROTAVIRUS (GROUP B / STRAIN IDIR)	205-232								
PVS09 ROTHA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN RV-4)	131-155	197-212							
PVS09 ROTHB	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN HUS)	197-212								
PVS09 ROTHD	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DSI)	197-212								
PVS09 ROTHE	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN HN126)	197-212								
PVS09 ROTHL	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (STRAIN L26)	131-155	197-212							
PVS09 ROTHM	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN M37)	131-155	197-212							
PVS09 ROTHO	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN MO AND STRAIN D)	131-155	197-212							
PVS09 ROTHP	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN P)	131-155								
PVS09 ROTHR	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN RVV)	131-155								
PVS09 ROTHS	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN S2)	197-212								
PVS09 ROTHV	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN VA70)	197-212								
PVS09 ROTHW	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	131-155	197-212							
PVS09 ROTP3	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 3 / STRAIN OSU)	131-155	197-212							
PVS09 ROTP6	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN TFR-41)	131-155								
PVS09 ROTPB	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN BEN-144)	197-212								
PVS09 ROTPM	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN BNII-1)	197-212								
PVS09 ROTRH	GLYCOPROTEIN VP7	RHESUS ROTAVIRUS	131-155								
PVS09 ROTSI	GLYCOPROTEIN VP7	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	131-155								
PVS11 ROTGA	NONSTRUCTURAL PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADRV) (ADULT DIARRHEA ROTAVIRUS)	136-153								
PVSH HRSA	SMALL HYDROPHOBIC PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	16-41								
PVSH MUMPI	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN SBL-1) AND MUMPS VIRUS (STRAIN SBL)	7-29								
PVSH MUMPI	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN EDINGBURGH 2 & 6)	7-29								
PVSH MUMPA	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN EDINGBURGH 4)	7-29								
PVSH MUMPA	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN MATSUYAMA)	10-29								
PVSH MUMPB	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN BELFAST)	7-29								
PVSH MUMPE	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN ENDERS)	7-29								
PVSH MUMPI	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN JERYL-LYNN)	7-29								
PVSH MUMPK	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN KILHAM)	7-29								
PVSH MUMPL	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN BRISTOL 1)	6-29								
PVSH MUMPM	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	10-29								

PCGENE	PIZCTLZIP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS									
PYR81_EBV	HYPOTHETICAL BRRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	199-223								
PYR82_EBV	HYPOTHETICAL BRRF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	164-182								
PYR83_EBV	HYPOTHETICAL BRRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	92-113								
PYR84_EBV	HYPOTHETICAL BRRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	383-401								
PYR85_EBV	HYPOTHETICAL 24 KD PROTEIN	ORGYA PSEUDOTSUGATA MULTICAPSID POLYEDROSIS VIRUS (OP)	133-152								
PYR86_EBV	HYPOTHETICAL 18 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	82-99	140-156							
PYR87_EBV	HYPOTHETICAL 8 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	17-40	51-68							
PYR88_EBV	HYPOTHETICAL 8 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	21-43								
PYR89_EBV	HYPOTHETICAL 8 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	28-46								
PYR90_EBV	HYPOTHETICAL 10 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	9-28								
PYR91_EBV	HYPOTHETICAL 11 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	37-54								
PYR92_EBV	HYPOTHETICAL 8 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	18-35								
PYR93_EBV	HYPOTHETICAL 8 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	5-26	36-52							
PYR94_EBV	HYPOTHETICAL 9 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	22-38	44-64							
PYR95_EBV	HYPOTHETICAL 92 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	3-18	22-38	44-64						
PYR96_EBV	HYPOTHETICAL 92 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-67								
PYR97_EBV	HYPOTHETICAL 88 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	23-42								
PYR98_EBV	HYPOTHETICAL 143 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	105-127								
PYR99_EBV	HYPOTHETICAL 90 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-70								
PYR100_EBV	HYPOTHETICAL 82 KD PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	150-166								
PYR101_EBV	HYPOTHETICAL 145 KD PROTEIN	CHLORIS STRIATE MOSAIC VIRUS	54-80								
PYR102_EBV	HYPOTHETICAL 18 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	100-125	141-162							
PYR103_EBV	HYPOTHETICAL 206 KD EARLY PROTEIN	HUMAN ADENOVIRUS TYPE 7	50-73								
PYR104_EBV	HYPOTHETICAL 247 KD PROTEIN	BEEF NECROTIC YELLOW VEIN MOSAIC VIRUS (ISOLATE E2)	163-188								
PYR105_EBV	HYPOTHETICAL 299 KD PROTEIN	AUTOGRAHA CALIFORNICA NUCLEAR POLYEDROSIS VIRUS	90-106								
PYR106_EBV	HYPOTHETICAL PROTEIN 2	SOYBEAN CHLOROTIC MOTTLE VIRUS	65-90								
PYR107_EBV	HYPOTHETICAL 317 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	122-142								
PYR108_EBV	HYPOTHETICAL 60 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	23-44								
PYR109_EBV	HYPOTHETICAL 74 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	21-36								
PYR110_EBV	HYPOTHETICAL PROTEIN 7	MEASLES VIRUS (STRAIN HALLE)	3-25								
PYR111_EBV	HYPOTHETICAL 857 KD PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	96-120								
PYR112_EBV	HYPOTHETICAL PROTEIN 8	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	80-105	155-173	543-565	657-675	764-784				
PYR113_EBV	HYPOTHETICAL 97 KD EARLY PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	10-27								
PYR114_EBV	HYPOTHETICAL 92 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	54-77								
PYR115_EBV	HYPOTHETICAL 92 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	16-41	62-77							
PYR116_EBV	HYPOTHETICAL BALF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	205-220								
PYR117_EBV	HYPOTHETICAL BAMH1-ORF1 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	354-374								
PYR118_EBV	HYPOTHETICAL BAMH1-ORF7 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	104-121								
PYR119_EBV	HYPOTHETICAL BAMH1-ORF9 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	49-67								
PYR120_EBV	HYPOTHETICAL BAMH1-ORF10 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	84-100								
PYR121_EBV	HYPOTHETICAL BAMH1-ORF12 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	114-134	154-169							
PYR122_EBV	BEL-3 PROTEIN	SIMIAN FOAMY VIRUS (TYPE 3 / STRAIN LK3)	113-128								
PYR123_EBV	BEL-3 PROTEIN	HUMAN SPINARETROVIRUS	52-78								
PYR124_EBV	HYPOTHETICAL 287 KD PROTEIN IN DHFR 3'REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	206-230								
PYR125_EBV	HYPOTHETICAL 93 KD PROTEIN IN DHFR 3'REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	69-90								
PYR126_EBV	HYPOTHETICAL EC-RF4 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	200-222								
PYR127_EBV	HYPOTHETICAL 236 KD PROTEIN	MAREK'S DISEASE HERPESVIRUS (STRAIN BC-1)	175-190								
PYR128_EBV	HYPOTHETICAL 236 KD PROTEIN	MAREK'S DISEASE HERPESVIRUS (STRAIN MD5)	175-190								
PYR129_EBV	HYPOTHETICAL PROTEIN HRL4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	101-121								
PYR130_EBV	HYPOTHETICAL HOST RANGE 274 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	86-102								
PYR131_EBV	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF	MURINE CORONA VIRUS MHV	141-156								
PYR132_EBV	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF	MURINE CORONA VIRUS MHV	7-33								
PYR133_EBV	HYPOTHETICAL BKRF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	67-90								
PYR134_EBV	HYPOTHETICAL 80 KD PROTEIN	HUMAN ADENOVIRUS TYPE 41	53-73								
PYR135_EBV	BMR2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	76-100	128-155	215-241	310-350					
PYR136_EBV	HYPOTHETICAL 159 KD PROTEIN	SIMULIUM IRIDESCENT VIRUS (INSECT IRIDESCENT VIRUS TYPE 22)	23-46								

PCGENE	PICTLZIP	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PY01_ADEGI	HYPOTHETICAL 23 KD PROTEIN	AVIAN ADENOVIRUS GALI (STRAIN PHILIPS) (FOWL ADENOVIRUS 1)	59-80								
PY01_COYAV	HYPOTHETICAL 7.9 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS	56-83								
PY02_TTVI	HYPOTHETICAL 13 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	13-40								
PY02_COYAV	HYPOTHETICAL 23.6 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS	23-49								
PY02_EAV	HYPOTHETICAL 28.4 KD PROTEIN	EQUINE ARTERITIS VIRUS	165-192								
PY02_LLV	HYPOTHETICAL 11.8 KD PROTEIN	LELYSTAD VIRUS	196-212								
PY03_LVX	HYPOTHETICAL 4 KD PROTEIN	LILY VIRUS X	71-92								
PY03_NMV	HYPOTHETICAL 12 KD PROTEIN	NARCISUS MOSAIC VIRUS	7-30								
PY03_PVX	HYPOTHETICAL 12 KD PROTEIN	POTATO VIRUS X	11-34								
PY03_PVXCP	HYPOTHETICAL 13 KD PROTEIN	POTATO VIRUS X (STRAIN CP)	11-34								
PY03_WCMVO	HYPOTHETICAL 31.5 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN M)	9-29								
PY03_ADEGI	HYPOTHETICAL 28.7 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN O)	9-31								
PY05_EAV	HYPOTHETICAL 10 KD PROTEIN	AVIAN ADENOVIRUS GALI (STRAIN PHILIPS) (FOWL ADENOVIRUS 1)	69-86								
PY06_NMV	HYPOTHETICAL 16.6 KD PROTEIN	EQUINE ARTERITIS VIRUS	139-158								
PY07_TTVI	HYPOTHETICAL 16.5 KD PROTEIN	NARCISUS MOSAIC VIRUS	10-26								
PY08_TTVI	HYPOTHETICAL 16.5 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	13-32								
PY08_TTVI	HYPOTHETICAL 16.5 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	16-39								
PY08_TTVI	HYPOTHETICAL 20.2 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	82-102	233-256							
PY24_RTBV	HYPOTHETICAL P24 PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	91-115								
PY24_RTBV	HYPOTHETICAL P24 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS	2-25	104-126							
PY47_NPVAC	HYPOTHETICAL 41.5 KD PROTEIN IN P47 REGION	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	2-25	104-126							
PY47_NPVAC	HYPOTHETICAL 41.5 KD PROTEIN IN P47 REGION	AUTOGRAFIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	211-234								
PY62_NPVOP	HYPOTHETICAL 12.2 KD PROTEIN IN P6 5'3' REGION	ORGANIA PSEUDOTUGATA MULTICAPSID POLYHEDROSIS VIRUS (OP 82-108)	82-108								
PY63_NPVOP	HYPOTHETICAL 40.0 KD PROTEIN IN P6 5'3' REGION	ORGANIA PSEUDOTUGATA MULTICAPSID POLYHEDROSIS VIRUS (OP 21-54)	21-54	215-230							
PY7B_TAVD	HYPOTHETICAL P7B PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN D) (TNV)	13-31								
PY04_NPVLD	HYPOTHETICAL 8.5 KD PROTEIN IN POL 3' REGION	LYNAMATRIA DISPAR MULTICAPSID NUCLEAR POLYHEDROSIS VIRUS	16-35								
PYR1_HSV6G	HYPOTHETICAL PROTEIN R1	HERPES SIMPLEX VIRUS (TYPE 6) (STRAIN GS)	42-66								
PYR2_HSV6G	HYPOTHETICAL PROTEIN R2	HERPES SIMPLEX VIRUS (TYPE 6) (STRAIN GS)	55-74								
PYR3_HSV6G	HYPOTHETICAL PROTEIN R3	HERPES SIMPLEX VIRUS (TYPE 6) (STRAIN GS)	32-56								
PYR1_IRV6	REPETITIVE PROTEIN ORF1	CHILLO IRIDESCENT VIRUS (CIV) (INSECT IRIDESCENT VIRUS TYPE 6)	20-43								
PYR4_IRV6	REPETITIVE PROTEIN ORF4	CHILLO IRIDESCENT VIRUS (CIV) (INSECT IRIDESCENT VIRUS TYPE 6)	44-69								
PYR5_IRV6	REPETITIVE PROTEIN ORF5	CHILLO IRIDESCENT VIRUS (CIV) (INSECT IRIDESCENT VIRUS TYPE 6)	98-123	179-204	260-285						
PYR1_EBV	HYPOTHETICAL BRRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	199-223								
PYR2_EBV	HYPOTHETICAL BRRF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	164-182								
PYR1_EBV	HYPOTHETICAL BSRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	92-113								
PYR1_EBV	HYPOTHETICAL BTRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	383-401								
PYB2_NPVOP	HYPOTHETICAL 24.0 KD PROTEIN	ORGANIA PSEUDOTUGATA MULTICAPSID POLYHEDROSIS VIRUS (OP 133-152)	82-99	140-156							
PYVAE_VACC	HYPOTHETICAL 18.2 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	17-40	51-68							
PYVAL_VACC	HYPOTHETICAL 8.4 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	21-43								
PYVAL_VACC	HYPOTHETICAL 9.9 KD PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPE 21-43)	28-46								
PYVAT_VACC	HYPOTHETICAL 8.9 KD PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPE 28-46)	9-28								
PYVBE_VACC	HYPOTHETICAL 10.5 KD PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPE 37-54)	18-35								
PYVCA_VACC	HYPOTHETICAL 11.2 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	22-38								
PYV2_VACC	HYPOTHETICAL 8.6 KD PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPE 36-52)	3-18	44-64							
PYVDA_VACC	HYPOTHETICAL 9.2 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-67								
PYVFA_VACC	HYPOTHETICAL 7.1 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	23-42								
PYVFF_VACC	HYPOTHETICAL 8.8 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	105-127								
PYVGA_VACC	HYPOTHETICAL 14.3 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-70								
PYV8_VACC	HYPOTHETICAL 9.0 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	150-166								
PYZL2_EBV	HYPOTHETICAL BZLF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)									

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TABLE XIV

SEARCH RESULTS SUMMARY

FOR P23TLZIPC MOTIF

PCGENE	P31CTL2IP	All Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7
FILE NAME	PROTEIN	VIRUS	617-651	1041-1077					
PPOL2_TBRVS	RNA2 POLYPROTEIN	TOMATO BLACK RING VIRUS (STRAIN S) (TBRV)	316-347						
PPOL2_TRSVR	RNA2 POLYPROTEIN	TOMATO RINGSPOT VIRUS (ISOLATE RASPBERRY) (TOMRSV)							
PPOLG_BOVEV	GENOME POLYPROTEIN	BOVINE ENTEROVIRUS (STRAIN VG-5-27) (BEV)	1831-1866	2001-2037					
PPOLG_BVDVN	GENOME POLYPROTEIN	BOVINE VIRAL DIARRHEA VIRUS (ISOLATE NADL)	102-135	1650-1678	3220-3248				
PPOLG_BVDVS	GENOME POLYPROTEIN	BOVINE VIRAL DIARRHEA VIRUS (STRAIN SD-1)	102-135	1500-1588	3130-3158				
PPOLG_BYMV	GENOME POLYPROTEIN	BEAN YELLOW MOSAIC VIRUS	226-255						
PPOLG_COXA2	GENOME POLYPROTEIN	COXSACKIEVIRUS A21 (STRAIN COE)	1120-1157						
PPOLG_COXA3	GENOME POLYPROTEIN	COXSACKIEVIRUS A33 (ECHO 9 VIRUS) (EC-9-V)	67-99						
PPOLG_COXA9	GENOME POLYPROTEIN	COXSACKIEVIRUS A9 (STRAIN GRIGGS)	1601-1633						
PPOLG_COXB1	GENOME POLYPROTEIN	COXSACKIEVIRUS B1	1582-1614						
PPOLG_COXB3	GENOME POLYPROTEIN	COXSACKIEVIRUS B3	1585-1617						
PPOLG_COXB4	GENOME POLYPROTEIN	COXSACKIEVIRUS B4	1583-1615						
PPOLG_COXB5	GENOME POLYPROTEIN	COXSACKIEVIRUS B5	835-868	1585-1617					
PPOLG_DEN1S	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN SINGAPORE 5275/90)	1111-1145	1485-1519	2401-2434				
PPOLG_DEN1W	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN WESTERN PACIFIC)	1112-1146						
PPOLG_DEN26	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681)	61-95	1112-1146					
PPOLG_DEN27	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681-PDK33)	61-95	1112-1146					
PPOLG_DEN2D	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN D2-04)	61-95						
PPOLG_DEN2J	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN JAMAICA)	61-95	1112-1146					
PPOLG_DEN2N	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN NEW GUINEA C)	364-398						
PPOLG_DEN2P	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN PR159S1)	61-95	1112-1146					
PPOLG_DEN2T	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN TONGA 1974)	832-866						
PPOLG_DEN3	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 3	61-95	2399-2432					
PPOLG_DEN4	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 4	60-94						
PPOLG_EC1TG	GENOME POLYPROTEIN	ECHOVIRUS 11 (STRAIN GREGORY)	774-806						
PPOLG_EMCV	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS	1194-1226	1461-1501					
PPOLG_EMCVB	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-B NONDIABETOGENIC)	1196-1228	1465-1503					
PPOLG_EMCVD	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-D DIABETOGENIC)	1196-1228	1465-1503					
PPOLG_FMDV1	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A10-61) (APHTHOVIRUS A)	1036-1064	1098-1133	1167-1199	1465-1501			
PPOLG_FMDVA	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A12) (APHTHOVIRUS A)	1036-1074	1098-1133	1167-1199	1465-1501			
PPOLG_FMDVO	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAINS OIK AND OIBF5)	1098-1133	1167-1199	1465-1501				
PPOLG_HCV1	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE 1) (HCV)	1640-1670						
PPOLG_HCV4	GENOME POLYPROTEIN	HOG CHOLERA VIRUS (STRAIN ALFORT) (SWINE FEVER VIRUS)	1363-1393	1560-1588	3131-3159				
PPOLG_HCVB	GENOME POLYPROTEIN	HOG CHOLERA VIRUS (STRAIN BRESCIA) (SWINE FEVER VIRUS)	102-135	1560-1588	3131-3159				
PPOLG_ICV1K	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HK) (HCV)	1640-1670						
PPOLG_ICV1V	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE H) (HCV)	1640-1670						
PPOLG_HCV4	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCV-476) (HCV)	254-291						
PPOLG_HCV18	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCV-18) (HCV)	711-742	1893-1924					
PPOLG_HCV18	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCV-18) (HCV)	1640-1670						
PPOLG_HCV1A	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE JAPANESE) (HCV)	1640-1670						
PPOLG_HCV1T	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCV-1T) (HCV)	1640-1670						
PPOLG_HCV1W	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCV-1W) (HCV)	1640-1670						
PPOLG_HPAV2	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 24A)	1514-1550	2068-2099					
PPOLG_HPAV4	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 43C)	1514-1550	2068-2099					
PPOLG_HPAV8	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 18F)	1514-1550	2068-2099					
PPOLG_HPAVH	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN IIM-175)	1515-1551	2069-2100					
PPOLG_HPAV1	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN LA)	1515-1551	2069-2100					
PPOLG_HPAV1	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN MIB3)	1515-1551	2069-2100					
PPOLG_HPAV5	GENOME POLYPROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN AGM-27)	831-868	1517-1553					
PPOLG_HRV14	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 14 (HRV-14)	1094-1132	2005-2041					
PPOLG_HRV1B	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 1B (HRV-1B)	1453-1485	1816-1849	1983-2019				
PPOLG_HRV2	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 2 (HRV-2)	1446-1475	1809-1842	1976-2012				
PPOLG_HRV89	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 89 (HRV-89)	1460-1492	1823-1856	1990-2026				
PPOLG_HRV7	GENOME POLYPROTEIN	HUMAN ENTEROVIRUS 70 (STRAIN J67071)	1108-1145						
PPOLG_IBDV0	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN OII)	222-260						
PPOLG_JAEV1	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA-14)	61-95	1233-1269	2779-2813	3274-3311			
PPOLG_JAEV3	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA-VV)	61-95	1233-1269	2779-2813	3274-3311			

PCGENE	PROTEIN	FILE NAME	PROTEIN	FILE NAME	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PPOLG_JAEV1	GENOME POL YPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN JAOKS982)	JAPANESE ENCEPHALITIS VIRUS (STRAIN JAOKS982)	61-95	1233-1269	1516-1549	2779-2813	3274-3311			
PPOLG_JAEV2	GENOME POL YPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN NAKAYAMA)	JAPANESE ENCEPHALITIS VIRUS (STRAIN NAKAYAMA)	1161-1197		3275-3312					
PPOLG_KUNIM	GENOME POL YPROTEIN	KUNIN VIRUS (STRAIN NRM561C)	KUNIN VIRUS (STRAIN NRM561C)	61-95	561-594	2230-2264	2366-2398	3095-3132			
PPOLG_LANTY	GENOME POL YPROTEIN	LANGAT VIRUS (STRAIN TP21)	LANGAT VIRUS (STRAIN TP21)	1157-1188	1519-1551						
PPOLG_MGFA	GENOME POL YPROTEIN	MOSQUITO CELL FUSING AGENT (CFA FLAVIVIRUS)	MOSQUITO CELL FUSING AGENT (CFA FLAVIVIRUS)	1174-1206	1330-1359						
PPOLG_MDMV	GENOME POL YPROTEIN	MAIZE DWARF MOSAIC VIRUS (MDMV)	MAIZE DWARF MOSAIC VIRUS (MDMV)	322-351							
PPOLG_MEV	GENOME POL YPROTEIN	MURRAY VALLEY ENCEPHALITIS VIRUS	MURRAY VALLEY ENCEPHALITIS VIRUS	61-95	1305-1342						
PPOLG_OMV	GENOME POL YPROTEIN	ORNITHOGALUM MOSAIC VIRUS	ORNITHOGALUM MOSAIC VIRUS	344-376							
PPOLG_PEMVC	GENOME POL YPROTEIN	PEPPER MOTTLE VIRUS (CALIFORNIA ISOLATE) (PEMV)	PEPPER MOTTLE VIRUS (CALIFORNIA ISOLATE) (PEMV)	825-859	1086-1124						
PPOLG_POLIM	GENOME POL YPROTEIN	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	1121-1158							
PPOLG_POLIS	GENOME POL YPROTEIN	POLIOVIRUS TYPE 1 (STRAIN SABIN)	POLIOVIRUS TYPE 1 (STRAIN SABIN)	1122-1159							
PPOLG_POLZL	GENOME POL YPROTEIN	POLIOVIRUS TYPE 2 (STRAIN LANSING)	POLIOVIRUS TYPE 2 (STRAIN LANSING)	1120-1157							
PPOLG_POLZM	GENOME POL YPROTEIN	POLIOVIRUS TYPE 2 (STRAIN W-2)	POLIOVIRUS TYPE 2 (STRAIN W-2)	1120-1157							
PPOLG_POLZ2	GENOME POL YPROTEIN	POLIOVIRUS TYPE 3 (STRAIN 23127)	POLIOVIRUS TYPE 3 (STRAIN 23127)	1119-1156							
PPOLG_POLZL	GENOME POL YPROTEIN	POLIOVIRUS TYPE 3 (STRAINS P3/LEON77 AND P3/LEON 12A) (11B)	POLIOVIRUS TYPE 3 (STRAINS P3/LEON77 AND P3/LEON 12A) (11B)	1119-1156							
PPOLG_PPVD	GENOME POL YPROTEIN	PLUM POX POTYVIRUS (STRAIN D) (PPV)	PLUM POX POTYVIRUS (STRAIN D) (PPV)	2960-2991	3084-3113						
PPOLG_PPVEA	GENOME POL YPROTEIN	PLUM POX POTYVIRUS (STRAIN EL ANAR) (PPV)	PLUM POX POTYVIRUS (STRAIN EL ANAR) (PPV)	1337-1368	1461-1490						
PPOLG_PPVNA	GENOME POL YPROTEIN	PLUM POX POTYVIRUS (ISOLATE NAT) (PPV)	PLUM POX POTYVIRUS (ISOLATE NAT) (PPV)	2944-2975	3068-3097						
PPOLG_PPVRA	GENOME POL YPROTEIN	PLUM POX POTYVIRUS (STRAIN RANKOVIC) (PPV)	PLUM POX POTYVIRUS (STRAIN RANKOVIC) (PPV)	2959-2990	3083-3112						
PPOLG_PSBMV	GENOME POL YPROTEIN	PEA SEED-BORNE MOSAIC VIRUS (STRAIN DPDI)	PEA SEED-BORNE MOSAIC VIRUS (STRAIN DPDI)	931-966	1411-1445	3149-3178					
PPOLG_PVTHU	GENOME POL YPROTEIN	POTATO VIRUS Y (STRAIN HUNGARIAN) (PVY)	POTATO VIRUS Y (STRAIN HUNGARIAN) (PVY)	1302-1336	3004-3033						
PPOLG_PVYN	GENOME POL YPROTEIN	POTATO VIRUS Y (STRAIN N) (PVY)	POTATO VIRUS Y (STRAIN N) (PVY)	1302-1336							
PPOLG_PYFV1	GENOME POL YPROTEIN	PARSNIP YELLOW FLECK VIRUS (ISOLATE P-121) (PYFV)	PARSNIP YELLOW FLECK VIRUS (ISOLATE P-121) (PYFV)	230-262	1110-1139	1903-1931					
PPOLG_PYFV2	GENOME POL YPROTEIN	SOYBEAN MOSAIC VIRUS (STRAIN N)	SOYBEAN MOSAIC VIRUS (STRAIN N)	245-274							
PPOLG_STEVN1	GENOME POL YPROTEIN	ST. LOUIS ENCEPHALITIS VIRUS (STRAIN NS1-7)	ST. LOUIS ENCEPHALITIS VIRUS (STRAIN NS1-7)	61-95	1301-1331						
PPOLG_SUNVS	GENOME POL YPROTEIN	SUGARCANE MOSAIC VIRUS (STRAIN SC)	SUGARCANE MOSAIC VIRUS (STRAIN SC)	307-336							
PPOLG_SVDVH	GENOME POL YPROTEIN	SWINE VESICULAR DISEASE VIRUS (STRAIN H3 '76)	SWINE VESICULAR DISEASE VIRUS (STRAIN H3 '76)	1585-1617							
PPOLG_SVDVU	GENOME POL YPROTEIN	SWINE VESICULAR DISEASE VIRUS (STRAIN UKG2772)	SWINE VESICULAR DISEASE VIRUS (STRAIN UKG2772)	1585-1617							
PPOLG_TBVS	GENOME POL YPROTEIN	TICK-BORNE ENCEPHALITIS VIRUS (STRAIN SOFJIN) (TBEV)	TICK-BORNE ENCEPHALITIS VIRUS (STRAIN SOFJIN) (TBEV)	833-869	1157-1188	2366-2398	3093-3132				
PPOLG_TBVA	GENOME POL YPROTEIN	TICK-BORNE ENCEPHALITIS VIRUS (WESTERN SUBTYPE) (TBEV)	TICK-BORNE ENCEPHALITIS VIRUS (WESTERN SUBTYPE) (TBEV)	827-865	2998-3027						
PPOLG_TEV	GENOME POL YPROTEIN	TOHACCO ETCH VIRUS (TEV)	TOHACCO ETCH VIRUS (TEV)	1157-1188	2366-2398	3093-3132					
PPOLG_TMEVB	GENOME POL YPROTEIN	THEILER'S MURINE ENCEPHALITIS VIRUS (STRAIN BEAN 4386)	THEILER'S MURINE ENCEPHALITIS VIRUS (STRAIN BEAN 4386)	1074-1102	1193-1221	1470-1508	1908-1939				
PPOLG_TMEVD	GENOME POL YPROTEIN	THEILER'S MURINE ENCEPHALITIS VIRUS (STRAIN DA)	THEILER'S MURINE ENCEPHALITIS VIRUS (STRAIN DA)	1072-1100	1191-1219	1468-1506	1906-1937				
PPOLG_TMEVG	GENOME POL YPROTEIN	THEILER'S MURINE ENCEPHALITIS VIRUS (STRAIN GIOVI)	THEILER'S MURINE ENCEPHALITIS VIRUS (STRAIN GIOVI)	1074-1102	1193-1221	1470-1508	1908-1939				
PPOLG_TUMV	GENOME POL YPROTEIN	TURKISH MOSAIC VIRUS (TUMV)	TURKISH MOSAIC VIRUS (TUMV)	1573-1602							
PPOLG_TVAV	GENOME POL YPROTEIN	TOHACCO VEIN MOTTLING VIRUS (TVAV)	TOHACCO VEIN MOTTLING VIRUS (TVAV)	2698-2731							
PPOLG_WNV2	GENOME POL YPROTEIN	WEST NILE VIRUS	WEST NILE VIRUS	61-95	557-590	3272-3309					
PPOLG_WNV	GENOME POL YPROTEIN	WEST NILE VIRUS	WEST NILE VIRUS	1157-1186	1228-1266	1495-1531	2308-2340	3092-3127			
PPOLG_YEV1	GENOME POL YPROTEIN	YELLOW FEVER VIRUS (STRAIN 17D)	YELLOW FEVER VIRUS (STRAIN 17D)	1157-1186	1228-1266	1495-1531	2308-2340	3092-3127			
PPOLG_YEV2	GENOME POL YPROTEIN	YELLOW FEVER VIRUS (STRAIN PASTEUR 17D-204)	YELLOW FEVER VIRUS (STRAIN PASTEUR 17D-204)	1157-1186	1228-1266	1495-1531	2308-2340	3092-3127			
PPOLG_ZYMV	GENOME POL YPROTEIN	ZUCCHINI YELLOW MOSAIC VIRUS (ZYMV)	ZUCCHINI YELLOW MOSAIC VIRUS (ZYMV)	329-358							
PPOLN_PVLIM	GENOME POL YPROTEIN	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	1122-1159							
PPOLN_PVLIM	GENOME POL YPROTEIN	WATERMELON MOSAIC VIRUS II	WATERMELON MOSAIC VIRUS II	244-273							
PPOLN_PVLIM	GENOME POL YPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD DONKEY)	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD DONKEY)	613-648	1436-1468						
PPOLN_PVLIM	GENOME POL YPROTEIN	FELINE CALICIVIRUS (STRAIN CP188 FV) (FCV)	FELINE CALICIVIRUS (STRAIN CP188 FV) (FCV)	327-365							
PPOLN_PVLIM	GENOME POL YPROTEIN	FELINE CALICIVIRUS (STRAIN JAPANESE F4) (FCV)	FELINE CALICIVIRUS (STRAIN JAPANESE F4) (FCV)	300-333							
PPOLN_PVLIM	GENOME POL YPROTEIN	FELINE CALICIVIRUS (STRAIN F9) (FCV)	FELINE CALICIVIRUS (STRAIN F9) (FCV)	803-841							
PPOLN_PVLIM	GENOME POL YPROTEIN	HIPATITIS E VIRUS (STRAIN BURNIA) (HEV)	HIPATITIS E VIRUS (STRAIN BURNIA) (HEV)	1618-1652							
PPOLN_PVLIM	GENOME POL YPROTEIN	HIPATITIS E VIRUS (STRAIN MEXICO) (HEV)	HIPATITIS E VIRUS (STRAIN MEXICO) (HEV)	1616-1650							
PPOLN_PVLIM	GENOME POL YPROTEIN	HEPATITIS E VIRUS (STRAIN MYANMAR) (HEV)	HEPATITIS E VIRUS (STRAIN MYANMAR) (HEV)	1618-1652							
PPOLN_PVLIM	GENOME POL YPROTEIN	HEPATITIS E VIRUS (STRAIN PAKISTAN) (HEV)	HEPATITIS E VIRUS (STRAIN PAKISTAN) (HEV)	1617-1651							
PPOLN_PVLIM	GENOME POL YPROTEIN	MIDDELBURG VIRUS	MIDDELBURG VIRUS	25-57							
PPOLN_PVLIM	GENOME POL YPROTEIN	ONYX-206 VIRUS (STRAIN GULU) (ONN)	ONYX-206 VIRUS (STRAIN GULU) (ONN)	1144-1180	1404-1439						
PPOLN_PVLIM	GENOME POL YPROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS (RHDV)	RABBIT HEMORRHAGIC DISEASE VIRUS (RHDV)	299-337	1562-1594						
PPOLN_PVLIM	GENOME POL YPROTEIN	SEMI-LIKE FOREST VIRUS	SEMI-LIKE FOREST VIRUS	1166-1175	1406-1441						
PPOLN_PVLIM	GENOME POL YPROTEIN	SINDHIS VIRUS (SUBTYPE OCKELDO / STRAIN EDSBYN 82-5)	SINDHIS VIRUS (SUBTYPE OCKELDO / STRAIN EDSBYN 82-5)	1454-1486							
PPOLN_PVLIM	GENOME POL YPROTEIN	SINDHIS VIRUS (STRAIN HRSF)	SINDHIS VIRUS (STRAIN HRSF)	1454-1486							

GENE	PROTEIN	ALL Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
FILE NAME	STRUCTURAL POLYPROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
PPOL_1	STRUCTURAL POLYPROTEIN	EASTERN EQUINE ENCEPHALITIS VIRUS	524-536						
PPOL_2	STRUCTURAL POLYPROTEIN	EASTERN EQUINE ENCEPHALITIS VIRUS (STRAIN VA31TEN BROECK)	525-537						
PPOL_3	STRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TC-8)	1203-1239						
PPOL_4	STRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD DONKEY)	1203-1239						
PPOL_5	STRUCTURAL POLYPROTEIN	ONYONG-NYONG VIRUS (STRAIN GULU) (ONN)	1150-1182	1201-1235					
PPOL_6	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN NBS092) (RRV)	1216-1250						
PPOL_7	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48) (RRV)	1216-1250						
PPOL_8	STRUCTURAL POLYPROTEIN	SEMLIKI FOREST VIRUS	1215-1251						
PPOL_9	STRUCTURAL POLYPROTEIN	SINDHIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 82-5)	1197-1233						
PPOL_10	STRUCTURAL POLYPROTEIN	SINDHIS VIRUS (STRAINS HRSP AND HRLP)	1197-1233						
PPOL_11	STRUCTURAL POLYPROTEIN	WESTERN EQUINE ENCEPHALITIS VIRUS	1188-1224						
PPOL_12	POL POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106) (BIV)	742-773						
PPOL_13	POL POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127) (BIV)	742-773						
PPOL_14	POL POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE) (BLV)	343-374						
PPOL_15	POL POLYPROTEIN	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK) (CAEV)	206-240	322-355					
PPOL_16	POL POLYPROTEIN	COXSALENA YELLOW MOTTLE VIRUS (COVMV)	1234-1267	1484-1518	1750-1788	1800-1831			
PPOL_17	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1369) (EIAV)	166-198	506-539					
PPOL_18	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22) (EIAV)	166-198	506-539					
PPOL_19	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING) (EIAV)	166-198	505-538					
PPOL_20	POL POLYPROTEIN	HUMAN SPUMARETROVIRUS (FOAMY VIRUS)	126-154						
PPOL_21	POL POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	348-378						
PPOL_22	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE 1 (STRAIN ATK) (HTLV-1)	657-688						
PPOL_23	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE 1 (CARIBBEAN ISOLATE) (HTLV-1)	657-688						
PPOL_24	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2SF2 ISOLATE) (HIV-1)	331-364	500-537					
PPOL_25	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE) (HIV-1)	343-376	512-549					
PPOL_26	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BHS ISOLATE) (HIV-1)	343-376	512-549					
PPOL_27	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE) (HIV-1)	343-376	512-549					
PPOL_28	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE) (HIV-1)	330-363	499-536					
PPOL_29	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE) (HIV-1)	331-364	500-537					
PPOL_30	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRC5F ISOLATE) (HIV-1)	335-368	504-541					
PPOL_31	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE) (HIV-1)	330-363						
PPOL_32	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE) (HIV-1)	334-367	501-540					
PPOL_33	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOLATE) (HIV-1)	331-364	500-537					
PPOL_34	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE) (HIV-1)	330-363	499-536					
PPOL_35	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OVI ISOLATE) (HIV-1)	331-364	500-537					
PPOL_36	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE) (HIV-1)	343-376	512-549					
PPOL_37	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (REF1AT ISOLATE) (HIV-1)	330-363	499-536					
PPOL_38	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN / ISOLATE)	330-363	499-536					
PPOL_39	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (22CDC-234 ISOLATE) (HIV-1)	330-363	499-536					
PPOL_40	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAN2) (HIV-2)	353-386						
PPOL_41	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-2) (HIV-2)	353-386						
PPOL_42	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD) (HIV-2)	354-387						
PPOL_43	PUTATIVE POL POLYPROTEIN	HAMSTER INTRACISTERNAL A-PARTICLE (IAP-H18)	460-496						
PPOL_44	POL POLYPROTEIN	SHEEP PUJOMARY ADENOMATOSIS VIRUS	186-220						
PPOL_45	POL POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS (MPMV)	650-681						
PPOL_46	POL POLYPROTEIN	OVINE LENTIVIRUS (STRAIN SA-OMVY)	61-98	102-130	182-216	208-231			
PPOL_47	POL POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS (RTBV)	788-824	891-919	1399-1433				
PPOL_48	POL POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES) (RTBV)	788-824	891-919	1399-1433				
PPOL_49	POL POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 3 / STRAIN LK3) (SEV-3)	337-365						
PPOL_50	POL POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIVCPZ) (CIV)	355-388	524-561					
PPOL_51	ENZYMATIC POL POLYPROTEIN	SOVIETAN CYCLOTIC MOTTLE VIRUS	17-55	58-89					
PPOL_52	POL POLYPROTEIN	SIMIAN RETROVIRUS SRV-1	650-681						
PPOL_53	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514)	80-117	201-235	317-350				
PPOL_54	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LVI-1KS1)	80-117	201-235	317-350				
PPOL_55	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LVI-1KS2)	80-117	201-235	317-350				
PPOL_56	PHOSPHOPROTEIN P41	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN G5)	60-91						
PPPT_NPVAC	PROTEIN-TYROSINE PHOSPHATASE	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	53-85						

PCGENE	PJCTLZIP	PROTEIN	ALL Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7
PREP_CSV	REPEAT ELEMENT PROTEIN		VIRUS	113-149						
PREV_BIV7	REV PROTEIN		CANPOLETIS SONORENSIS VIRUS (CSV)							
PREV_EIAV9	REV PROTEIN		BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127) (BIV)							
PREV_EIAVC	REV PROTEIN		EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1369) (EIAV)	44-79						
PREV_EIAVY	REV PROTEIN		EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22) (EIAV)	44-79						
PREV_SIVAT	REV PROTEIN		EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYONING) (EIAV)	74-109						
PRIR1_A5FM2	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH		SINIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE) (SIV-AGM)	25-62						
PRIR1_HGMVA	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH		AFRICAN SWINE FEVER VIRUS (ISOLATE NALAWI LIL 20/1) (ASFV)	630-666						
PRIR1_HSVBB	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH		HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	279-311	393-430	449-477				
PRIR1_VACCC	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH		EQUINE HERPESVIRUS TYPE 1 (STRAIN ABAP) (EHV-1)	60-92	503-531					
PRIR1_VACCV	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH		VACCINIA VIRUS (STRAIN COPENHAGEN)	203-235						
PRIR1_VAVR	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH		VACCINIA VIRUS (STRAIN WR)	203-235						
PRIR1_VZVD	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH		VARIOLA VIRUS	34-72	221-254	488-516				
PRMIL_AVEVR	RMIL SERINE/THREONINE-PROTEIN KINASE TRANSFORM		VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	149-177						
PRMIL_AVIII	RMIL SERINE/THREONINE-PROTEIN KINASE TRANSFORM		AVIAN RETROVIRUS IC10	133-161						
PRP4_VACCV	RNA-POLYMERASE-ASSOCIATED TRANSCRIPTION SPECIF		VACCINIA VIRUS (STRAIN WR, AND VACCINIA VIRUS (STRAIN COPENHAGEN)	399-427						
PRP4_VAVR	RNA-POLYMERASE-ASSOCIATED TRANSCRIPTION SPECIF		VARIOLA VIRUS	399-427						
PRP01_VACCV	DNA-DIRECTED RNA POLYMERASE 147 KD POLYPEPTIDE		VACCINIA VIRUS (STRAIN WR)	1005-1033						
PRP01_CAPVK	DNA-DIRECTED RNA POLYMERASE 132 KD POLYPEPTIDE		CAPRIPOX VIRUS (STRAIN KS-1)	297-333	667-696					
PRP02_COWPX	DNA-DIRECTED RNA POLYMERASE 132 KD POLYPEPTIDE		COWPOX VIRUS (CPV)	202-236	542-578					
PRP02_VACCV	DNA-DIRECTED RNA POLYMERASE 132 KD POLYPEPTIDE		VACCINIA VIRUS (STRAIN WR, AND VACCINIA VIRUS (STRAIN COPENHAGEN)	202-236	542-578					
PRP02_VACCV	DNA-DIRECTED RNA POLYMERASE 19 KD POLYPEPTIDE		VARIOLA VIRUS	202-236	542-578					
PRP07_VACCV	DNA-DIRECTED RNA POLYMERASE 19 KD POLYPEPTIDE		VACCINIA VIRUS (STRAIN WR, AND VACCINIA VIRUS (STRAIN COPENHAGEN)	38-66						
PRP07_FOWP1	DNA-DIRECTED RNA POLYMERASE 18 KD POLYPEPTIDE		VARIOLA VIRUS	38-66						
PRP08_FOWP1	DNA-DIRECTED RNA POLYMERASE 18 KD POLYPEPTIDE		FOWLPX VIRUS	57-88						
PRP0A_LELV	RNA-DIRECTED RNA POLYMERASE		LELYSTAD VIRUS (LV)	1233-1268	3133-3163	3426-3457				
PRP0L_EAV	RNA-DIRECTED RNA POLYMERASE		EQUINE ARTERITIS VIRUS (EAV)	171-207	3041-3072					
PRP0L_DHV11	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1		DHORI VIRUS (STRAIN INDIAN/13/61) (DHO)	96-125	199-234					
PRP0L_JAV17	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1		INFLUENZA A VIRUS (STRAIN AVICTORIA/375)	138-170						
PRP0L_JNCJ1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1		INFLUENZA C VIRUS (STRAIN C/11/50)	364-398						
PRP02_JAANN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN AJANN ARBOR/660)	398-435	484-518					
PRP02_IADH2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN ADUCK/10KKAID08/80)	484-518						
PRP02_JAFR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN AGULLMAYLAND/04/77)	484-518						
PRP02_JAGU2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN AQUEINELONDON/14/673)	484-518						
PRP02_JAHL0	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN ALENINGRAD/13/1757)	484-518						
PRP02_JAKOR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN ALENINGRAD/13/1757)	484-518						
PRP02_JALET	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN ALENINGRAD/13/1757)	484-518						
PRP02_JALE2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN ALENINGRAD/13/1757)	484-518						
PRP02_JAMAN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN AMALL ARDNEW YORK/63507/8)	484-518						
PRP02_JANT6	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN AMALL ARDNEW YORK/63507/8)	484-518						
PRP02_JAPI0	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN ANTI6068)	484-518						
PRP02_JAPIE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JARUD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JASIN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JATKM	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAV7	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAW1L	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZH2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZH3	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI3	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI4	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI5	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI6	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI7	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI8	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI9	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI10	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI11	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI12	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI13	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI14	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI15	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI16	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI17	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI18	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI19	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI20	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI21	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI22	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI23	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI24	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI25	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI26	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI27	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI28	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI29	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI30	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI31	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI32	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI33	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI34	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI35	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI36	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI37	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI38	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI39	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI40	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI41	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI42	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI43	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI44	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI45	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI46	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI47	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI48	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI49	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI50	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI51	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI52	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI53	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI54	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI55	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI56	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI57	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI58	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI59	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI60	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI61	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI62	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI63	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI64	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI65	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI66	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI67	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI68	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI69	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI70	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518						
PRP02_JAZI71	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2		INFLUENZA A VIRUS (STRAIN APIJALBERTA/11979)	484-518			</			

PGCENE	PROTEIN	PROTEIN	ALL Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PRPRO_LYCVA	RNA POLYMERASE	LYMPHOCTIC CHORIONININGITIS VIRUS (STRAIN ARMSTRONG)	LYMPHOCTIC CHORIONININGITIS VIRUS (STRAIN WE)	109-137	263-291	2077-2106				
PRPRO_LYCVW	RNA POLYMERASE	LYMPHOCTIC CHORIONININGITIS VIRUS (STRAIN WE)	LYMPHOCTIC CHORIONININGITIS VIRUS (STRAIN WE)	109-137						
PRPRO_MCNV	PROBABLE RNA-DIRECTED RNA POLYMERASE	MAIZE CHLOROTIC MOTTLE VIRUS (MCMV)	MAIZE CHLOROTIC MOTTLE VIRUS (MCMV)	16-48	53-81					
PRPRO_PLRV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	POTATO LEAFROLL VIRUS (STRAIN 1) (PLRV)	POTATO LEAFROLL VIRUS (STRAIN 1) (PLRV)	576-607						
PRPRO_PLRVW	PUTATIVE RNA-DIRECTED RNA POLYMERASE	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN) (PLRV)	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN) (PLRV)	576-607						
PRPRO_PPMVS	PUTATIVE RNA-DIRECTED RNA POLYMERASE	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN) (PMV)	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN) (PMV)	375-407	702-730	859-891	1069-1106	1533-1565		
PRPRO_RCMNV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	RED CLOVER NECROTIC MOSAIC VIRUS (RCNMV)	RED CLOVER NECROTIC MOSAIC VIRUS (RCNMV)	278-314	320-353					
PRPRO_REOV	RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 2 / STRAIN D/JONES)	REOVIRUS (TYPE 2 / STRAIN D/JONES)	284-315						
PRPRO_ROTBR	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	BOVINE ROTA VIRUS (STRAIN RP)	BOVINE ROTA VIRUS (STRAIN RP)	23-60	200-231	247-276				
PRPRO_ROTBU	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	BOVINE ROTA VIRUS (STRAIN UK)	BOVINE ROTA VIRUS (STRAIN UK)	200-231	247-276					
PRPRO_ROTGB	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	PORCINE ROTA VIRUS (STRAIN GOTTFRIED)	PORCINE ROTA VIRUS (STRAIN GOTTFRIED)	200-231	247-276					
PRPRO_ROTST	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	SIMIAN 11 ROTA VIRUS (STRAIN SAI1)	SIMIAN 11 ROTA VIRUS (STRAIN SAI1)	25-60	200-231	247-276				
PRPRO_TACV	RNA POLYMERASE	TACARIBE VIRUS	TACARIBE VIRUS	17-52	109-138	2078-2112				
PRPRO_TBSVC	PROBABLE RNA-DIRECTED RNA POLYMERASE	TOMATO BUSHY STUNT VIRUS (STRAIN CHERRY) (TBSV)	TOMATO BUSHY STUNT VIRUS (STRAIN CHERRY) (TBSV)	470-501						
PRPRO_TCV	PROBABLE RNA-DIRECTED RNA POLYMERASE	TURKIP CRINKLE VIRUS (TCV)	TURKIP CRINKLE VIRUS (TCV)	280-318						
PRPRO_TMGMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U2)	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U2)	67-97	128-159	209-244	376-406	450-483	855-887	1527-1559
PRPRO_TNV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (VULGARE) (TMV)	TOBACCO MOSAIC VIRUS (VULGARE) (TMV)	128-159	376-406	700-728	1533-1565			
PRPRO_TMVKR	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (STRAIN KOREAN) (TMV)	TOBACCO MOSAIC VIRUS (STRAIN KOREAN) (TMV)	128-159	376-406	700-728	1533-1565			
PRPRO_TMVT	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (STRAIN TOMATO) (TMV)	TOBACCO MOSAIC VIRUS (STRAIN TOMATO) (TMV)	128-159	376-406	700-728	857-889	1533-1565		
PRPRO_TNVA	RNA-DIRECTED RNA POLYMERASE	TOBACCO NECROSIS VIRUS (STRAIN A) (TNV)	TOBACCO NECROSIS VIRUS (STRAIN A) (TNV)	231-263						
PRPRO_TNVD	RNA-DIRECTED RNA POLYMERASE	TOBACCO NECROSIS VIRUS (STRAIN D) (TNV)	TOBACCO NECROSIS VIRUS (STRAIN D) (TNV)	5-40	234-270					
PRPRO_CDOV	RNA POLYMERASE ALPHA SUBUNIT	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEEPOORT) (CDV)	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEEPOORT) (CDV)	295-332						
PRPRO_MEAS	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	MEASLES VIRUS (STRAIN EDMONSTON)	295-332						
PRPRO_MEAS1	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN IP-3-CA)	MEASLES VIRUS (STRAIN IP-3-CA)	295-332						
PRPRO_MEAS2	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN YAMAGATA-1)	MEASLES VIRUS (STRAIN YAMAGATA-1)	295-332						
PRPRO_MUMPI	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN SBL-1)	MUMPS VIRUS (STRAIN SBL-1)	211-248						
PRPRO_MUMPE	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN ENDERS)	MUMPS VIRUS (STRAIN ENDERS)	212-249						
PRPRO_MUMPM	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	212-249						
PRPRO_NDVA	RNA POLYMERASE ALPHA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/12) (NDV)	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/12) (NDV)	220-255						
PRPRO_NDVB	RNA POLYMERASE ALPHA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C45) (NDV)	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C45) (NDV)	220-255						
PRPRO_P1H	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 2 VIRUS (PIV-2)	HUMAN PARAINFLUENZA 2 VIRUS (PIV-2)	216-253						
PRPRO_P1HT	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA) (PIV-2)	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA) (PIV-2)	216-253						
PRPRO_P1HA	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA) (PIV-4A)	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA) (PIV-4A)	220-257	332-364					
PRPRO_P1HB	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 4B VIRUS (STRAIN 68-333) (PIV-4B)	HUMAN PARAINFLUENZA 4B VIRUS (STRAIN 68-333) (PIV-4B)	220-257	332-364					
PRPRO_P1RV	RNA POLYMERASE ALPHA SUBUNIT	PIRY VIRUS	PIRY VIRUS	134-168						
PRPRO_RABVA	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN A VOI)	RABIES VIRUS (STRAIN A VOI)	216-244						
PRPRO_RABVC	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN CVS-11)	RABIES VIRUS (STRAIN CVS-11)	216-244						
PRPRO_RABVE	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN ERA)	RABIES VIRUS (STRAIN ERA)	216-244						
PRPRO_RABVP	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN PV)	RABIES VIRUS (STRAIN PV)	89-122	216-244					
PRPRO_RABVS	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN SAD B19)	RABIES VIRUS (STRAIN SAD B19)	216-244						
PRPRO_SEND5	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN 2 / HOST MUTANTS)	SENDAI VIRUS (STRAIN 2 / HOST MUTANTS)	530-566						
PRPRO_SEND6	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN 6/94)	SENDAI VIRUS (STRAIN 6/94)	530-566						
PRPRO_SINDP	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN FUSHIMI)	SENDAI VIRUS (STRAIN FUSHIMI)	530-566						
PRPRO_SENDH	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN HARRIS)	SENDAI VIRUS (STRAIN HARRIS)	530-566						
PRPRO_SENDZ	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN Z)	SENDAI VIRUS (STRAIN Z)	530-566						
PRPRO_SVS	RNA POLYMERASE ALPHA SUBUNIT	SIMIAN VIRUS 5 (STRAIN W3) (SV5)	SIMIAN VIRUS 5 (STRAIN W3) (SV5)	199-236						
PRPRO_VSVJM	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN MISSOURI)	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN MISSOURI)	198-230						
PRPRO_VSVJO	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN OKINAWA)	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN OKINAWA)	197-230						
PSODC_VACT	SUPEROXIDE DISMUTASE LIKE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	VACCINIA VIRUS (STRAIN COPENHAGEN)	19-55						
PSODC_VACTV	SUPEROXIDE DISMUTASE LIKE PROTEIN	VACCINIA VIRUS (STRAIN WB)	VACCINIA VIRUS (STRAIN WB)	19-55						
PSODC_VARY	SUPEROXIDE DISMUTASE LIKE PROTEIN	VARIOLA VIRUS	VARIOLA VIRUS	19-55						
PSPHR_AMEPV	SPHEROIDIN	AMISACTA MOOREI ENTOMOPHAGUS VIRUS (AMIEPV)	AMISACTA MOOREI ENTOMOPHAGUS VIRUS (AMIEPV)	58-86	138-172	627-659	671-701			
PSPII_MYTL	SERPIN I	MYXOMA VIRUS (STRAIN LAUSANNE)	MYXOMA VIRUS (STRAIN LAUSANNE)	167-200						
PSPII_VACC	SERPINE PROTEINASE INHIBITOR 3	VACCINIA VIRUS (STRAIN COPENHAGEN)	VACCINIA VIRUS (STRAIN COPENHAGEN)	112-140						
PSPII_VACCV	SERPINE PROTEINASE INHIBITOR 3	VACCINIA VIRUS (STRAIN WB)	VACCINIA VIRUS (STRAIN WB)	112-140						
PSPII_VARY	SERPINE PROTEINASE INHIBITOR 1	VARIOLA VIRUS	VARIOLA VIRUS	116-144						
PTAGH_FOWPV	TRANS-ACTIVATOR PROTEIN FPO	POWELLPOX VIRUS	POWELLPOX VIRUS	199-230						

PGCENE	PLC12LIP	All Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7
FILE NAME	PROTEIN	VIRUS	186-223						
PUL36_HCMVA	HYPOTHETICAL PROTEIN UL36	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	186-223						
PUL37_EBV	PROTEIN BOLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	85-123						
PUL37_HSVEB	GENE 23 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	702-732	778-812					
PUL37_HSVSA	GENE 63 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	566-602						
PUL37_VZVD	GENE 21 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	598-629	706-736	776-806				
PUL38_HCMVA	HYPOTHETICAL PROTEIN UL38	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	157-188						
PUL41_VZVD	HOST SHUTOFF VIRION PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	274-307						
PUL41_HSV11	HOST SHUTOFF VIRION PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	41-70						
PUL45_HSV11	MEMBRANE PROTEIN UL43	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	34-64	277-308					
PUL47_HCMVA	PROTEIN UL47	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	438-471	741-777					
PUL47_HSV4	97 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 4	580-615						
PUL47_HSVB	97 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	587-622						
PUL49_HSV11	TEGUMENT PROTEIN UL49	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	226-259						
PUL49_HSVBP	TEGUMENT PROTEIN UL49 HOMOLOG	BOVINE HERPESVIRUS TYPE 1 (STRAIN P8-2)	135-168						
PUL52_EBV	PROBABLE DNA REPLICATION PROTEIN BSLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	582-617						
PUL52_HSV11	DNA REPLICATION PROTEIN UL52	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	599-629	771-805					
PUL52_HSVB	DNA REPLICATION PROTEIN UL52	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	316-344	580-618	912-947				
PUL52_HSVSA	PROBABLE DNA REPLICATION GENE 56 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	229-267	374-411					
PUL53_HCMVA	PROTEIN UL53	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	213-248						
PUL53_HSV61	UL53 PROTEIN HOMOLOG	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	105-139						
PUL60_HCMVA	HYPOTHETICAL PROTEIN UL60	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	120-148						
PUL70_HCMVA	PROBABLE DNA REPLICATION PROTEIN UL70	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	36-65	626-664					
PUL71_HCMVA	VIRION PROTEIN UL71	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	381-413	565-598					
PUL78_HCMVA	HYPOTHETICAL PROTEIN UL78	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	262-290	303-341					
PUL79_HSVSA	HYPOTHETICAL GENE 18 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	158-195						
PUL87_HSV6U	HYPOTHETICAL PROTEIN 5R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	130-159						
PUL87_HSVSA	HYPOTHETICAL GENE 24 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	322-355						
PUL88_HCMVA	HYPOTHETICAL PROTEIN UL88	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	309-337						
PUL88_HSV6U	HYPOTHETICAL PROTEIN 6R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	150-187	238-272					
PUL91_HSVSA	HYPOTHETICAL GENE 30 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	23-53						
PUL92_HSVB	HYPOTHETICAL PROTEIN BDLF4	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	106-144						
PUL92_HSVSA	HYPOTHETICAL GENE 31 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	123-157						
PUL91_HCMVA	PROTEIN UL91	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	387-420						
PUL95_EBV	HYPOTHETICAL PROTEIN BGLF3	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	111-145						
PUL98_HCMVA	HYPOTHETICAL PROTEIN UL118	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	102-130	152-181					
PUL101_HCMVA	HYPOTHETICAL PROTEIN UL121	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	120-165						
PUL103_HCMVA	HYPOTHETICAL PROTEIN UL128	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	64-96						
PUL104_HCMVA	HYPOTHETICAL PROTEIN UL129	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	66-99						
PUL106_HCMVA	HYPOTHETICAL PROTEIN UL130	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	81-114						
PUNG_EBV	URACIL-DNA GLYCOSYLASE	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	159-189						
PUNG_VACC	URACIL-DNA GLYCOSYLASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	82-117						
PUNG_VACCV	URACIL-DNA GLYCOSYLASE	VACCINIA VIRUS (STRAIN WI)	82-117						
PUNG_VARV	URACIL-DNA GLYCOSYLASE	VARIOLA VIRUS	82-117						
PUS02_HCMVA	HYPOTHETICAL PROTEIN HOLF2	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	43-73						
PUS07_HCMVA	HYPOTHETICAL PROTEIN HOLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	153-190						
PUS09_HCMVA	HYPOTHETICAL PROTEIN HOLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	179-213						
PUS10_HCMVA	HYPOTHETICAL PROTEIN IXL1F2	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	137-170						
PUS12_HCMVA	HYPOTHETICAL PROTEIN IXL1F6	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	29-67	113-142					
PUS13_HCMVA	HYPOTHETICAL PROTEIN IXL1F5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	11-45						
PUS15_HCMVA	HYPOTHETICAL PROTEIN IXL1F3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	343-375						
PUS16_HCMVA	HYPOTHETICAL PROTEIN IXL1F2	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	151-188	243-274					
PUS18_HCMVA	MEMBRANE PROTEIN IXL1F5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	185-222						
PUS22_HCMVA	EARLY NUCLEAR PROTEIN IXL1F1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	270-299						
PUS26_HCMVA	HYPOTHETICAL PROTEIN IXL1F5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	132-164						
PUS27_HCMVA	G-PROTEIN COUPLED RECEPTOR HOMOLOG US27	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	247-285						
PUS29_HCMVA	HYPOTHETICAL PROTEIN IHLR4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	246-276						
PUS30_HCMVA	HYPOTHETICAL PROTEIN IHLR5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	208-246						

PCGENE	P23CTLZIP	PROTEIN	FILENAME	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7
			BEET CURLY TOP VIRUS (BCTV)	82-115						
PVAL3_BCTV	AL3 PROTEIN		CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844)	77-113						
PVAL3_CLVK	AL3 PROTEIN		CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	77-113						
PVAL3_CLVN	AL3 PROTEIN		TOMATO YELLOW LEAF CURL VIRUS (STRAIN MARMANDE) (TYLCV)	78-116						
PVAL3_TYLCM	AL3 PROTEIN		TOMATO YELLOW LEAF CURL VIRUS (TYLCV)	77-113						
PVAL3_TYLCV	AL3 PROTEIN		CALIFLOWER MOSAIC VIRUS (STRAIN CM-1841) (CAMV)	20-53	81-116					
PVAL3_TYLCV	AL3 PROTEIN		CALIFLOWER MOSAIC VIRUS (STRAIN DAH) (CAMV)	20-53	102-130					
PVAL3_TYLCV	AL3 PROTEIN		CALIFLOWER MOSAIC VIRUS (STRAIN BBC) (CAMV)	20-53	81-116					
PVAL3_TYLCV	AL3 PROTEIN		CALIFLOWER MOSAIC VIRUS (STRAIN NY8153) (CAMV)	20-53	81-116					
PVAL3_TYLCV	AL3 PROTEIN		CALIFLOWER MOSAIC VIRUS (STRAIN PV147) (CAMV)	20-53	81-116					
PVAL3_TYLCV	AL3 PROTEIN		CALIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG) (CAMV)	20-53	81-116					
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN COPENHAGEN)	124-156	489-525					
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN WR)	124-156	489-525					
PVAL3_TYLCV	AL3 PROTEIN		VARIOLA VIRUS	89-126						
PVAL3_TYLCV	AL3 PROTEIN		COWPOX VIRUS (CPV)	89-126						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN WR)	213-244						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN COPENHAGEN)	211-242						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN DAIREN I)	211-242						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN WR)	211-242						
PVAL3_TYLCV	AL3 PROTEIN		VARIOLA VIRUS	166-198						
PVAL3_TYLCV	AL3 PROTEIN		BEAN GOLDEN MOSAIC VIRUS	98-130						
PVAL3_TYLCV	AL3 PROTEIN		SHOPE FIBROXIA VIRUS (STRAIN KASZA) (SFV)	182-216						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN COPENHAGEN)	109-139	183-215					
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN WR)	109-139						
PVAL3_TYLCV	AL3 PROTEIN		VARIOLA VIRUS	109-139						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN COPENHAGEN)	36-67						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN WR)	36-67						
PVAL3_TYLCV	AL3 PROTEIN		VARIOLA VIRUS	60-97						
PVAL3_TYLCV	AL3 PROTEIN		SHOPE FIBROXIA VIRUS (STRAIN KASZA) (SFV)	573-610						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN COPENHAGEN)	573-610						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN WR)	85-121						
PVAL3_TYLCV	AL3 PROTEIN		SHOPE FIBROXIA VIRUS (STRAIN KASZA) (SFV)	121-158						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN COPENHAGEN)	121-158						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN WR)	121-158						
PVAL3_TYLCV	AL3 PROTEIN		VARIOLA VIRUS	3-34						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN COPENHAGEN)	148-183	200-230					
PVAL3_TYLCV	AL3 PROTEIN		EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	43-78	128-161					
PVAL3_TYLCV	AL3 PROTEIN		HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	19-49	258-286					
PVAL3_TYLCV	AL3 PROTEIN		HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	124-161	666-696	841-869				
PVAL3_TYLCV	AL3 PROTEIN		HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	174-179	198-232	272-301				
PVAL3_TYLCV	AL3 PROTEIN		EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	144-179	196-226	714-769	1062-1096			
PVAL3_TYLCV	AL3 PROTEIN		HERPESVIRUS SAIMIRI (STRAIN 11)	31-68						
PVAL3_TYLCV	AL3 PROTEIN		PSEUDORABIES VIRUS (STRAIN INDIANA S) (PRV)	86-115						
PVAL3_TYLCV	AL3 PROTEIN		VARIOLA VIRUS	85-114						
PVAL3_TYLCV	AL3 PROTEIN		HUMAN ADENOVIRUS TYPE 2	12-50	146-182					
PVAL3_TYLCV	AL3 PROTEIN		HUMAN ADENOVIRUS TYPE 5	12-50	146-182					
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN COPENHAGEN)	12-50	146-182					
PVAL3_TYLCV	AL3 PROTEIN		VARIOLA VIRUS	315-352						
PVAL3_TYLCV	AL3 PROTEIN		FOWLPOX VIRUS (STRAIN FP-1)	320-348						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN COPENHAGEN)	320-348						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN WR)	320-348						
PVAL3_TYLCV	AL3 PROTEIN		VARIOLA VIRUS	114-143						
PVAL3_TYLCV	AL3 PROTEIN		FOWLPOX VIRUS (STRAIN FP-1)	31-60						
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN DAIREN I)	430-458	511-540					
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN COPENHAGEN)	226-260	430-458					
PVAL3_TYLCV	AL3 PROTEIN		VACCINIA VIRUS (STRAIN WR)	226-260	430-458					

PCGENE	PLCCLZIP	FILE NAME	PROTEIN	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
PVE06_VARV	PROTEIN E6	VAROLA VIRUS		430-458	511-540					
PVE10_VACCC	PROTEIN E10	VACCINIA VIRUS (STRAIN COPENHAGEN)		3-41						
PVE10_VACCV	PROTEIN E10	VACCINIA VIRUS (STRAIN WR)		3-41						
PVE12_HPV16	PROTEIN E12	VARIOLA VIRUS		3-41						
PVE18_NPVAC	PROBABLE E1 PROTEIN 2	HUMAN PAPILLOMAVIRUS TYPE 16		102-131						
PVE1_HPV05	EARLY 18.5 KD PROTEIN	AUTOGAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPNV)		45-77						
PVE1_HPV11	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5		4-35						
PVE1_HPV13	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11		258-291						
PVE1_HPV33	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 13		235-288						
PVE1_HPV39	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33		238-267	519-547					
PVE1_HPV41	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35		220-263						
PVE1_HPV58	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39		242-271						
PVE1_HPV68	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41		105-138	193-231					
PVE1_PAPVD	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58		228-267						
PVE1_PCPV1	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58		6-35						
PVE2_HPV57	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 68		258-291						
PVE2_HPV61	E2 PROTEIN	DEER PAPILLOMAVIRUS		163-201						
PVE2_HPV61	E2 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1		257-290						
PVE2_HPV61	E2 PROTEIN	AUTOGAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPNV)		118-150						
PVE2_HPV61	E2 PROTEIN	RUESUS PAPILLOMAVIRUS TYPE 1 (RHPV 1)		151-182						
PVE2_HPV61	E2 PROTEIN	AUTOGAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPNV)		117-147						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11		19-56						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 68		19-56						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6C		19-56						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 13		89-118						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31		21-58						
PVE2_HPV61	E2 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1		109-140						
PVE2_HPV61	E2 PROTEIN	RUESUS PAPILLOMAVIRUS TYPE 1 (RHPV 1)		91-128						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A		55-90						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5		55-90						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8		55-90						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11		47-83						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A		47-81						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A		45-77						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31		47-83						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33		47-83						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35		48-84						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41		61-94						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 47		55-90						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51		61-94						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58		48-84						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 50		55-90						
PVE2_HPV61	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 68		47-83						
PVE2_HPV61	E2 PROTEIN	DEER PAPILLOMAVIRUS		48-86						
PVE2_HPV61	E2 PROTEIN	EUROPEAN ELK PAPILLOMAVIRUS (EEPV)		60-93						
PVE2_HPV61	E2 PROTEIN	AUTOGAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPNV)		121-157	650-678					
PVE2_HPV61	E2 PROTEIN	TRICHOPLUSIA NI GRANULOSIS VIRUS (TNGV)		154-182						
PVE2_HPV61	E2 PROTEIN	BERNE VIRUS (BEV)		16-51	87-117					
PVE2_HPV61	E2 PROTEIN	DIORL VIRUS (STRAIN INDIAN/13/6/1) (DHO)		297-335						
PVE2_HPV61	E2 PROTEIN	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 1 (MCV1)		203-236						
PVE2_HPV61	E2 PROTEIN	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 2 (MCV2)		203-236						
PVE2_HPV61	E2 PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)		208-241						
PVE2_HPV61	E2 PROTEIN	VACCINIA VIRUS (STRAIN IHD-1)		208-241						
PVE2_HPV61	E2 PROTEIN	VACCINIA VIRUS (STRAIN 1-IVF)		208-241						
PVE2_HPV61	E2 PROTEIN	VACCINIA VIRUS (STRAIN WR)		208-241						
PVE2_HPV61	E2 PROTEIN	VACCINIA VIRUS		155-187	208-241					

PCGENE	FUNCTION	PROTEIN	ALL Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
FILENAME	PROTEIN	PROTEIN	VIRUS	2-40	61-93					
PVF01_VACC	PROTEIN F3	PROTEIN F3	VACCINIA VIRUS (STRAIN COPENHAGEN)	2-40	61-93					
PVF03_VACC	PROTEIN F3	PROTEIN F3	VACCINIA VIRUS (STRAIN WR)	2-40	61-93					
PVF04_FOWPV	PROTEIN F4	PROTEIN F4	FOWLPOX VIRUS	297-330						
PVF07_FOWPV	PROTEIN F7	PROTEIN F7	FOWLPOX VIRUS	297-330						
PVF07_CAPVK	PROTEIN F7	PROTEIN F7	CAPRIPOX VIRUS (STRAIN KS-1)	85-118						
PVF07_VACC	14 KD FUSION PROTEIN	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	28-61						
PVF08_VACC	14 KD FUSION PROTEIN	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	28-61						
PVF08_VARV	14 KD FUSION PROTEIN	14 KD FUSION PROTEIN	VARIOLA VIRUS	28-61						
PVG01_HSV1	HYPOTHETICAL GENE 1 PROTEIN	HYPOTHETICAL GENE 1 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	317-346						
PVG02_HSV1	HYPOTHETICAL GENE 2 PROTEIN	HYPOTHETICAL GENE 2 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	163-196						
PVG02_VACC	ISATIN-BETA-THIOSEMICARBAZONE DEPENDENT PROTEIN	ISATIN-BETA-THIOSEMICARBAZONE DEPENDENT PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPENHAGEN)	92-120						
PVG02_VARV	ISATIN-BETA-THIOSEMICARBAZONE DEPENDENT PROTEIN	ISATIN-BETA-THIOSEMICARBAZONE DEPENDENT PROTEIN	VARIOLA VIRUS	92-120						
PVG03_HSV1	HYPOTHETICAL GENE 3 PROTEIN	HYPOTHETICAL GENE 3 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	108-136						
PVG06_HSV1	HYPOTHETICAL GENE 6 MEMBRANE PROTEIN	HYPOTHETICAL GENE 6 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	54-83						
PVG06_VACC	PROTEIN G6	PROTEIN G6	VACCINIA VIRUS (STRAIN COPENHAGEN)	99-136						
PVG06_VARV	PROTEIN G6	PROTEIN G6	VARIOLA VIRUS	99-136						
PVG07_VACC	PROTEIN G7	PROTEIN G7	VACCINIA VIRUS (STRAIN COPENHAGEN)	113-145						
PVG07_VARV	PROTEIN G7	PROTEIN G7	VARIOLA VIRUS	113-145						
PVG09_VACC	PROTEIN F1	PROTEIN F1	VACCINIA VIRUS (STRAIN COPENHAGEN)	303-338						
PVG09_VACC	PROTEIN F1	PROTEIN F1	VACCINIA VIRUS (STRAIN WR)	266-301						
PVG09_VARV	PROTEIN F1	PROTEIN F1	VARIOLA VIRUS	303-338						
PVG11_HSV1	HYPOTHETICAL GENE 11 ZINC-BINDING PROTEIN	HYPOTHETICAL GENE 11 ZINC-BINDING PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	150-183						
PVG17_HSV1	HYPOTHETICAL GENE 17 ZINC-BINDING PROTEIN	HYPOTHETICAL GENE 17 ZINC-BINDING PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	206-243						
PVG12_HSV1	HYPOTHETICAL GENE 12 PROTEIN	HYPOTHETICAL GENE 12 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	68-106						
PVG1_SPVIR	CAPSID PROTEIN	CAPSID PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	254-292	103-337	414-452				
PVG21_HSV1	HYPOTHETICAL GENE 21 PROTEIN	HYPOTHETICAL GENE 21 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	300-337	647-678					
PVG23_HSV1	HYPOTHETICAL GENE 23 PROTEIN	HYPOTHETICAL GENE 23 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	70-108						
PVG26_HSV1	HYPOTHETICAL GENE 26 PROTEIN	HYPOTHETICAL GENE 26 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	94-125						
PVG27_HSV1	HYPOTHETICAL GENE 27 PROTEIN	HYPOTHETICAL GENE 27 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	36-74						
PVG28_HSV1	HYPOTHETICAL GENE 28 PROTEIN	HYPOTHETICAL GENE 28 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	491-521						
PVG28_AMERV	HYPOTHETICAL G28 PROTEIN	HYPOTHETICAL G28 PROTEIN	AMSACTA MOOREI ENTOMOPHILUS (AMEPV)	180-217						
PVG2_SPV4	GENE 2 PROTEIN	GENE 2 PROTEIN	SPIROPLASMA VIRUS 4 (SPV4)	209-244						
PVG31_HSV1	HYPOTHETICAL GENE 31 PROTEIN	HYPOTHETICAL GENE 31 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	15-46	190-226					
PVG36_HSV1	POSSIBLE TYROSINE-PROTEIN KINASE	POSSIBLE TYROSINE-PROTEIN KINASE	HERPESVIRUS SAIMIRI (STRAIN 11)	151-185						
PVG39_HSV1	HYPOTHETICAL GENE 39 PROTEIN	HYPOTHETICAL GENE 39 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	543-577	648-682					
PVG40_HSV1	HYPOTHETICAL GENE 40 PROTEIN	HYPOTHETICAL GENE 40 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	187-216						
PVG41_HSV1	HYPOTHETICAL GENE 41 PROTEIN	HYPOTHETICAL GENE 41 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	11-45	202-233					
PVG42_HSV1	HYPOTHETICAL GENE 42 PROTEIN	HYPOTHETICAL GENE 42 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	91-123						
PVG43_HSV1	HYPOTHETICAL GENE 43 PROTEIN	HYPOTHETICAL GENE 43 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	109-140	157-185					
PVG46_HSV1	PROBABLE MAJOR GLYCOPROTEIN	PROBABLE MAJOR GLYCOPROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	888-925						
PVG48_HSV1	HYPOTHETICAL GENE 48 PROTEIN	HYPOTHETICAL GENE 48 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	329-357						
PVG50_HSV1	PROBABLE TRANSCRIPTION ACTIVATOR-EDRF1	PROBABLE TRANSCRIPTION ACTIVATOR-EDRF1	HERPESVIRUS SAIMIRI (STRAIN 11)	113-141						
PVG51_HSV1	HYPOTHETICAL GENE 51 MEMBRANE PROTEIN	HYPOTHETICAL GENE 51 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	29-64	84-120					
PVG52_HSV1	HYPOTHETICAL GENE 52 PROTEIN	HYPOTHETICAL GENE 52 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	96-134						
PVG55_HSV1	HYPOTHETICAL GENE 55 PROTEIN	HYPOTHETICAL GENE 55 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	100-129						
PVG56_HSV1	HYPOTHETICAL GENE 56 PROTEIN	HYPOTHETICAL GENE 56 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	364-396	631-667	1091-1126				
PVG58_HSV1	HYPOTHETICAL GENE 58 PROTEIN	HYPOTHETICAL GENE 58 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	342-375	480-508					
PVG58_HSV1	GENE 58 PROTEIN	GENE 58 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	25-60	195-233					
PVG59_HSV1	HYPOTHETICAL GENE 59 MEMBRANE PROTEIN	HYPOTHETICAL GENE 59 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	82-118						
PVG61_HSV1	HYPOTHETICAL GENE 61 PROTEIN	HYPOTHETICAL GENE 61 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	76-109						
PVG64_HSV1	HYPOTHETICAL GENE 64 PROTEIN	HYPOTHETICAL GENE 64 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	55-89	363-401	420-452				
PVG65_HSV1	HYPOTHETICAL GENE 65 PROTEIN	HYPOTHETICAL GENE 65 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	801-836	1146-1174	1290-1326				
PVG67_HSV1	HYPOTHETICAL GENE 67 PROTEIN	HYPOTHETICAL GENE 67 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	1150-1185						
PVG6_SPVIR	GENE 6 PROTEIN	GENE 6 PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	1150-1185						
PVG71_HSV1	HYPOTHETICAL GENE 71 PROTEIN	HYPOTHETICAL GENE 71 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	128-158						
PVG72_HSV1	HYPOTHETICAL GENE 72 PROTEIN	HYPOTHETICAL GENE 72 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	445-478	720-751	1158-1189	1252-1285			
PVG75_HSV1	HYPOTHETICAL GENE 75 PROTEIN	HYPOTHETICAL GENE 75 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	263-291	387-422					

PCGENE	P21CT1ZIP	All Viruses (no bacteriophages)	AREA.1	AREA.2	AREA.3	AREA.4	AREA.5	AREA.6	AREA.7
FILENAME	PROTEIN	VIRUS	12-50						
PVGLY_P1ARV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	PICHINDE ARENAVIRUS	12-50						
PVGLY_TACV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS	12-50						
PVGLY_TACV3	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN V5)	12-50	89-124					
PVGLY_TACV7	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN V7)	12-50	89-124					
PVGLY_TACV7	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN TRVL 11598)	12-50	89-124					
PVGNB_CPMV	GENOME POLYPROTEIN B	COWPEA MOSAIC VIRUS (CPMV)	1527-1555						
PVGNM_CPMV	GENOME POLYPROTEIN M	COWPEA SEVERE MOSAIC VIRUS (STRAIN DO)	209-242	741-771					
PVGNM_CPMV	GENOME POLYPROTEIN M	RED CLOVER MOTTLE VIRUS (RCMV)	50-86	479-515					
PVGNM_CPMV	GENOME POLYPROTEIN M	RED CLOVER MOTTLE VIRUS (RCMV)	766-799						
PVGP2_EBV	PROBABLE MEMBRANE ANTIGEN GP220	EPSTEIN-BARR VIRUS (STRAIN B95-9) (HUMAN HERPESVIRUS 4)	78-111						
PVGP3_EBV	ENVELOPE GLYCOPROTEIN GP340	EPSTEIN-BARR VIRUS (STRAIN B95-9) (HUMAN HERPESVIRUS 4)	78-111						
PVH02_VACCC	LATE PROTEIN H2	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-89						
PVH02_VACCV	LATE PROTEIN H2	VACCINIA VIRUS (STRAIN WR)	54-89						
PVH02_VARV	LATE PROTEIN H2	VARIOLA VIRUS							
PVH05_VACCC	PROTEIN H5	VACCINIA VIRUS (STRAIN COPENHAGEN)	115-149						
PVH05_VACCV	PROTEIN H5	VACCINIA VIRUS (STRAIN WR)	115-149						
PVH05_VARV	PROTEIN H5	VARIOLA VIRUS	133-167						
PVIEL_LSV	PROBABLE HELICASE	LILY SYMPTOMLESS VIRUS (LSV)	107-143						
PV101_VACCC	PROTEIN I1	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-82						
PV101_VARV	PROTEIN I1	VARIOLA VIRUS	54-82						
PV106_VACCV	PROTEIN I6	VACCINIA VIRUS (STRAIN WR)	55-88						
PV106_VARV	PROTEIN I6	VARIOLA VIRUS	55-88						
PV108_VACCC	PUTATIVE RNA HELICASE I8	VACCINIA VIRUS (STRAIN COPENHAGEN)	591-624						
PV108_VACCV	PUTATIVE RNA HELICASE I8	VACCINIA VIRUS (STRAIN WR)	591-624						
PV108_VARV	PUTATIVE RNA HELICASE I8	VARIOLA VIRUS	591-624						
PV101_HCMVA	55 KD IMMEDIATE-EARLY PROTEIN I	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	243-271						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HUMAN CYTOMEGALOVIRUS (STRAIN TOVNE)	243-271						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HUMAN CYTOMEGALOVIRUS (STRAIN TOVNE)	42-78						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127) (BIV)	42-78						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127) (BIV)	46-78						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GRI)	82-111						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GRI)	125-159						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	EPSTEIN-BARR VIRUS (STRAIN B95-9) (HUMAN HERPESVIRUS 4)	68-100						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HUMAN CYTOMEGALOVIRUS (STRAIN ADI 69)	136-171	250-282					
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HERPES SIMPLEX VIRUS (TYPE 1/ STRAIN 17)	83-114	91-127	332-361				
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HERPES SIMPLEX VIRUS (TYPE 1/ STRAIN 17)	24-56						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HERPES SIMPLEX VIRUS (TYPE 1/ STRAIN 17)	76-111						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HERPESVIRUS SAIMIRI (STRAIN 11)	253-291						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	SULFOLABIUS VIRUS-LIKE PARTICLE (SSV)	54-85						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-85						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN WR)	54-85						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VARIOLA VIRUS	54-85						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN COPENHAGEN)	87-120						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN WR)	87-120						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN COPENHAGEN)	74-103						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN WR)	87-116						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN WR)	39-76						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN COPENHAGEN)	39-76						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VARIOLA VIRUS	39-76						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN COPENHAGEN)	292-322						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN WR)	292-322						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VARIOLA VIRUS	291-321						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VACCINIA VIRUS (STRAIN WR, AND VACCINIA VIRUS (STRAIN COPENHAGEN)	16-45						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VARIOLA VIRUS	16-45						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	VARIOLA VIRUS	16-45						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HUMAN PAPILLOMAVIRUS TYPE 3B	373-406						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS) (CRPV)	26-57						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HUMAN PAPILLOMAVIRUS TYPE 5	27-57						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HUMAN PAPILLOMAVIRUS TYPE 8	27-57						
PV101_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN I	HUMAN PAPILLOMAVIRUS TYPE 1A	26-56						

PGCENE	P21C1Z1P	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
FILE NAME	PROTEIN	VIRUS	29-59	285-313					
PV12_HPVS9	PROBABLE L2 PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 39	29-59	285-313					AREA 7
PV12_HPVS42	PROBABLE L2 PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 42	26-57						
PV12_HPVS47	PROBABLE L2 PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 47	29-59						
PV12_HPVS51	PROBABLE L2 PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 51	27-57						
PV12_HPVS58	PROBABLE L2 PROTEIN	HUMAN PAPILLOMA VIRUS TYPE 58	29-59						
PV12_HPVSNE	PROBABLE L2 PROTEIN	HUMAN PAPILLOMA VIRUS TYPE ME180	29-59						
PV12_PCPV1	PROBABLE L2 PROTEIN	PGMY CHIMPANZEE PAPILLOMA VIRUS TYPE 1	29-59						
PV12_IRV1	L96 PROTEIN	TIPULA IRIDESCENT VIRUS (TIV) (INSECT IRIDESCENT VIRUS TYPE 1)	144-177	686-718					
PV121_RDOVD	MINOR VIRION STRUCTURAL PROTEIN MU-2	REOVIRUS (TYPE 3 / STRAIN DEARING)	280-318	324-361					
PV121_REOVL	MINOR VIRION STRUCTURAL PROTEIN MU-2	REOVIRUS (TYPE 3 / STRAIN LANG)	280-318						
PV121_REOVD	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IMU-1C	REOVIRUS (TYPE 3 / STRAIN DEARING)	168-199						
PV122_REOVD	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IMU-1C	REOVIRUS (TYPE 3 / STRAIN DEARING)	168-199						
PV122_REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IMU-1C	REOVIRUS (TYPE 2 / STRAIN D5/ONES)	168-199						
PV123_REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1/IMU-1C	REOVIRUS (TYPE 1 / STRAIN LANG)	168-199						
PV123_REOVD	MAJOR NONSTRUCTURAL PROTEIN MU-NS	REOVIRUS (TYPE 3 / STRAIN DEARING)	333-364						
PV124_SVS	MATRIX PROTEIN	SIMIAN VIRUS 5 (STRAIN W3) (SV5)	308-342						
PV124_TRTV	MATRIX PROTEIN	TURKEY RHINOTRACHEITIS VIRUS (TRTV)	122-150						
PV121_CVBNI	E1 GLYCOPROTEIN	BOVINE CORONAVIRUS (STRAIN NEBUS)	64-102						
PV121_CVHOC	E1 GLYCOPROTEIN	HUMAN CORONAVIRUS (STRAIN OC43)	64-102						
PV121_CVMAS	E1 GLYCOPROTEIN	MURINE CORONAVIRUS MHV (STRAIN A59)	65-103						
PV121_CVMJH	E1 GLYCOPROTEIN	MURINE CORONAVIRUS MHV (STRAIN HM)	65-103						
PV121_CVTKE	E1 GLYCOPROTEIN	TURKEY ENTERIC CORONAVIRUS (TCV)	64-102						
PV121_IBVB2	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE) (IBV)	73-101						
PV121_IBVB2	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE N42) (IBV)	73-101						
PV121_EBV	PROBABLE MEMBRANE PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	178-213						
PV121_CERV	MOVEMENT PROTEIN	CARNATION ETCHED RING VIRUS (CERV)	93-126						
PV121_SOCNV	MOVEMENT PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	66-98	271-303					
PV121_HPBDB	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (BROWN SHANGHAI DUCK ISOLATE S5) (DHBV)	201-238	269-302					
PV121_HPBDC	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (STRAIN CHINA) (DHBV)	194-227	268-301					
PV121_HPBDD	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (DHBV)	157-190	231-264					
PV121_HPBDE	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE S31) (DHBV)	194-228	269-302					
PV121_HPBDS	MAJOR SURFACE ANTIGEN PRECURSOR	GROUND SQUIRREL HEPATITIS VIRUS (GSIV)	209-243	271-307					
PV121_HPBHE	MAJOR SURFACE ANTIGEN PRECURSOR	HERON HEPATITIS B VIRUS	159-195	216-269					
PV121_HPBH0	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS	70-98						
PV121_HPBH2	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW2)	244-272						
PV121_HPBH4	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW4)	244-272						
PV121_HPBH9	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN 991)	244-272						
PV121_HPBH4	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (STRAIN ALPHA1)	231-261						
PV121_HPBVD	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE AD)	70-98						
PV121_HPBVI	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN INDONESIA/PIDW420)	233-261						
PV121_HPBVI	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN JAPAN/PIDW233)	233-261						
PV121_HPBVL	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (STRAIN LSH / CHIMPANZEE ISOLATE)	233-261						
PV121_HPBVN	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN NC-1)	70-98						
PV121_HPBVO	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN OKINAWA/PODW282)	233-261						
PV121_HPBVP	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN PHILIPPINO/PFDW294)	244-272						
PV121_HPBVR	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW)	244-272						
PV121_HPBVS	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE AR)	70-98						
PV121_HPBVW	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW)	233-261						
PV121_HPBVY	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW)	233-261						
PV121_HPBVZ	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW)	233-261						
PV121_WHV1	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 1	207-241	269-303					
PV121_WHV59	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 59	212-246	274-310					
PV121_WHV7	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 7	212-246	274-310					
PV121_WHV8	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 8	212-246	274-310					
PV121_WHV81	PROBABLE MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 8 (INFECTIOUS CLONE)	212-246	274-305					
PV121_WHVW6	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS W64 (ISOLATE PW523)	125-161						
PV121_WHVZ1	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/WSN/09/99)	10-42						

PCGENE	FUNCTION	ALL Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
ELF1 MANE	PROTEIN	MYXOMA VIRUS (STRAIN LAUSANNE)	5-34						
PVNT18	MT-9 PROTEIN	MYXOMA VIRUS (STRAIN LAUSANNE)	246-282						
PVNT19	MT-9 PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	31-68						
PVNT20	VACCC	VACCINIA VIRUS (STRAIN WR)	31-68						
PVNT21	PROTEIN N2	VARIOLA VIRUS	31-68						
PVNT22	PROTEIN N2	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	336-366						
PVNT23	ROTIC	ADENO-ASSOCIATED VIRUS 2 (AAV2)	163-196						
PVNT24	DNA REPLICATION PROTEIN	BOVINE PARVOVIRUS (BPV)	180-217						
PVNT25	PROBABLE NONCAPSID PROTEIN NS1	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	351-380						
PVNT26	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALASKA/6/77)	114-144						
PVNT27	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	114-144						
PVNT28	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/JAPAN/24)	107-144						
PVNT29	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/74/49)	104-141						
PVNT30	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/60/76)	107-144						
PVNT31	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/56)	104-141						
PVNT32	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/KR/1/63)	104-141						
PVNT33	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/1/47)	114-144						
PVNT34	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1/50)	114-144						
PVNT35	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FOVL PLAGUE VIRUS/ROSTOCK/74)	107-144						
PVNT36	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ENINGRAD/1/45/57)	114-144						
PVNT37	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ENINGRAD/54/1)	114-144						
PVNT38	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALLARD/ALBERTA/88/76)	107-144						
PVNT39	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALLARD/NEW YORK/67/50/78)	107-144						
PVNT40	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALLARD/NEW YORK/68/74/78)	107-144						
PVNT41	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ANNAH/THAI/76)	104-141						
PVNT42	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALBERTA/1/19/79)	107-144						
PVNT43	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALBERTA/12/17/79)	107-144						
PVNT44	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALBERTA/268/78)	107-144						
PVNT45	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALBERTA/258/79)	107-144						
PVNT46	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/83/4)	114-144						
PVNT47	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/BETHLEHEM-GLILITI/492-B/82)	107-144						
PVNT48	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/CANADA/63)	107-144						
PVNT49	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TENNESSEE/SOUTH AFRICA/61)	104-141						
PVNT50	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURK/MENTA/18/72)	107-144						
PVNT51	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/UDORN/10/72)	114-144						
PVNT52	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/US/SR/90/77)	114-144						
PVNT53	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/USWINE/IOWA/15/50)	266-295						
PVNT54	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/PA/79)	222-255						
PVNT55	NONSTRUCTURAL PROTEIN NS1	INFLUENZA C VIRUS (STRAIN C/ANN ARBOR/1/50)	222-255						
PVNT56	NONSTRUCTURAL PROTEIN NS1	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18537)	20-49						
PVNT57	NONSTRUCTURAL PROTEIN 2	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	20-49						
PVNT58	NONSTRUCTURAL PROTEIN 2	INFLUENZA B VIRUS (STRAIN B/LEE/40)	48-77						
PVNT59	NONSTRUCTURAL PROTEIN NS2	INFLUENZA B VIRUS (STRAIN B/AMAGATA/1/73)	48-77						
PVNT60	NONSTRUCTURAL PROTEIN NS2	MURINE CORONA VIRUS MHV (STRAIN JHM)	17-45						
PVNT61	NONSTRUCTURAL PROTEIN 4	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONA VIRUS (STRAIN F57)	4-34						
PVNT62	NONSTRUCTURAL PROTEIN 4	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONA VIRUS (STRAIN PUR)	4-39						
PVNT63	NONSTRUCTURAL PROTEIN 4	PORCINE RESPIRATORY CORONA VIRUS	4-39						
PVNT64	NONSTRUCTURAL PROTEIN 4	MURINE CORONA VIRUS MHV (STRAIN A59)	45-80						
PVNT65	30 KD NONSTRUCTURAL PROTEIN	MURINE CORONA VIRUS MHV (STRAIN JHM)	49-84						
PVNT66	NONSTRUCTURAL PROTEIN NS1-NS2	INFLUENZA C VIRUS (STRAIN C/GREAT LAKES/1167/54)	222-255						
PVNT67	NONSTRUCTURAL PROTEIN NS1-NS2	INFLUENZA C VIRUS (STRAIN C/JOHANNESBURG/1/66)	222-255						
PVNT68	NONSTRUCTURAL PROTEIN NS1-NS2	INFLUENZA C VIRUS (STRAIN C/MISSISSIPPI/80)	222-255						
PVNT69	NONSTRUCTURAL PROTEIN NS1-NS2	INFLUENZA C VIRUS (STRAIN C/AMAGATA/108/1)	222-255						
PVNT70	PROBABLE NUCLEAR ANTIGEN	PSUEDORABIES VIRUS (STRAIN KAP/AN/1/PRV)	756-784						
PVNT71	NONSTRUCTURAL PROTEIN	DIORI VIRUS (STRAIN INDIAN/1/11/61) (DHIO)	297-331						

PCGENE	P2ACTLZIP	FILE NAME	PROTEIN	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PVP62	BTVI0	VP6 PROTEIN	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	155-183	210-245					
PVP62	MRDV	PROBABLE NONSTRUCTURAL 36.1 KD PROTEIN	PROBABLE NONSTRUCTURAL 36.1 KD PROTEIN	MAIZE ROUGH DWARF VIRUS (MRDV)	25-61	222-257					
PVP64	NPVOP	MAJOR ENVELOPE GLYCOPROTEIN PRECURSOR	MAJOR ENVELOPE GLYCOPROTEIN PRECURSOR	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OPANPV)	285-313						
PVP67	NPVAC	MAJOR ENVELOPE GLYCOPROTEIN	MAJOR ENVELOPE GLYCOPROTEIN	AUTOGRAPIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPNV)	281-316						
PVP67	NPVGM	MAJOR ENVELOPE GLYCOPROTEIN	MAJOR ENVELOPE GLYCOPROTEIN	GALLERIA MELLONELLA NUCLEAR POLYHEDROSIS VIRUS (GMNPV)	198-233						
PVP6	BTVI1	VP6 PROTEIN	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	155-183						
PVP6	BTVI7	VP6 PROTEIN	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	155-183						
PVP6	BTVIS	VP6 PROTEIN	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	159-187						
PVP6	BTVA	STRUCTURAL PROTEIN P6	STRUCTURAL PROTEIN P6	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	131-159						
PVP6	WTV	STRUCTURAL PROTEIN P6	STRUCTURAL PROTEIN P6	WOUND TUMOR VIRUS (WTV)	180-209						
PVP6	WTVN1	STRUCTURAL PROTEIN P6	STRUCTURAL PROTEIN P6	WOUND TUMOR VIRUS (STRAIN N1) (WTV)	180-209						
PVP79	NPVAC	79 KD PROTEIN	79 KD PROTEIN	AUTOGRAPIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPNV)	405-442						
PVP7	WTV	NONSTRUCTURAL PROTEIN P57	NONSTRUCTURAL PROTEIN P57	WOUND TUMOR VIRUS (WTV)	454-490						
PVP87	NPVOP	CAPSID PROTEIN P87	CAPSID PROTEIN P87	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OPANPV)	77-112						
PVP8	BTVI0	NONSTRUCTURAL PROTEIN P8	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	104-139						
PVP8	BTVI1	NONSTRUCTURAL PROTEIN P8	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	104-139						
PVP8	BTVI3	NONSTRUCTURAL PROTEIN P8	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	104-139						
PVP8	BTVI7	NONSTRUCTURAL PROTEIN P8	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	104-139						
PVP8	BTVA	NONSTRUCTURAL PROTEIN P8	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	104-139						
PVP8	BTVIS	NONSTRUCTURAL PROTEIN P8	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	104-139						
PVP8	BTVA	NONSTRUCTURAL PROTEIN P8	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	104-139						
PVP8	RDV	OUTER CAPSID PROTEIN P8	OUTER CAPSID PROTEIN P8	RICE DWARF VIRUS (RDV)	374-412						
PVP8	WTV	OUTER CAPSID PROTEIN P8	OUTER CAPSID PROTEIN P8	WOUND TUMOR VIRUS (WTV)	164-195	379-412					
PVPHE	NPVAC	29 KD POLYHEDRAL ENVELOPE PROTEIN	29 KD POLYHEDRAL ENVELOPE PROTEIN	AUTOGRAPIA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPNV)	145-173						
PVPHE	NPVOP	32 KD POLYHEDRAL ENVELOPE PROTEIN	32 KD POLYHEDRAL ENVELOPE PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OPANPV)	122-151						
PVPR	HVIA2	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2SF2 ISOLATE) (HIV-1)	37-74						
PVPR	IV2DE	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE REN) (HIV-2)	41-73						
PVPR	IV2CA	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CA) (HIV-2)	41-73						
PVPR	IV2DI	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE DI) (HIV-2)	41-73						
PVPR	HV2D2	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7) (HIV-2)	41-73						
PVPR	HV2N2	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-2) (HIV-2)	41-73						
PVPR	HV2RO	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD) (HIV-2)	41-73						
PVPR	IV2SH	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SHILIN) (HIV-2)	41-73						
PVPR	IV2ST	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST) (HIV-2)	40-72						
PVPR	SV2Z	VP8 PROTEIN	VP8 PROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIVCPZ) (CIV)	37-74						
PVPR	SV4M1	VP8 PROTEIN	VP8 PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM142.83) ISOLATE (SIV-MAC)	37-69						
PVPR	SV4M2	VP8 PROTEIN	VP8 PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE) (SIV-MAC)	37-69						
PVPR	SV4M3	VP8 PROTEIN	VP8 PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE) (SIV-MAC)	17-69						
PVPR	SV4M4	VP8 PROTEIN	VP8 PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (P2.6/NNHH ISOLATE) (SOOTY MANGA)	17-69						
PVPU	HVIB1	VP8 PROTEIN	VP8 PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PB1/DC13 ISOLATE) (SOOTY MANGA) (HIV-1)	37-69						
PVPU	HVIB8	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE HXB3 ISOLATE) (HIV-1)	3-33						
PVPU	HVIB9	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE) (HIV-1)	4-33						
PVPU	HVIB10	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRIN ISOLATE) (HIV-1)	3-34						
PVPU	HVIB11	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HUR1 ISOLATE) (HIV-1)	3-33						
PVPU	HVIB12	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE) (HIV-1)	4-33						
PVPU	HVIB13	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRC5F ISOLATE) (HIV-1)	3-34						
PVPU	HVIB14	VP8 PROTEIN	VP8 PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE) (HIV-1)	3-33						
PVPU	JSKV	VP8 PROTEIN	VP8 PROTEIN	SHEEP PULMONARY ADENOMATOSIS VIRUS	116-154						
PVPX	LDV	VPX PROTEIN	VPX PROTEIN	LACTATE DEHYDROGENASE-ELEVATING VIRUS (LDV)	25-55						
PVPY	BIV2	ORF-Y PROTEIN	ORF-Y PROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127) (BIV)	35-71						
PVRNA	BSMV	ALPHA-A PROTEIN	ALPHA-A PROTEIN	BARLEY STRIPPE MOSAIC VIRUS (BSMV)	290-319	676-705					
PVS03	ROTH1	NONSTRUCTURAL PROTEIN NCVP2	NONSTRUCTURAL PROTEIN NCVP2	HUMAN ROTAVIRUS (STRAIN IGV-80-3)	198-230						
PVS05	ROTHC	NONSTRUCTURAL PROTEIN NSS3	NONSTRUCTURAL PROTEIN NSS3	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	88-119	358-392					
PVS05	ROTS1	NONSTRUCTURAL PROTEIN NCVP2	NONSTRUCTURAL PROTEIN NCVP2	SIMIAN 11 ROTAVIRUS (STRAIN SAI1)	315-347						
PVS06	ROTR	VP6 PROTEIN	VP6 PROTEIN	BOVINE ROTAVIRUS (STRAIN RF)	55-92						
PVS06	ROTRB	VP6 PROTEIN	VP6 PROTEIN	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	64-92	312-340					
PVS06	ROTRBU	VP6 PROTEIN	VP6 PROTEIN	BOVINE ROTAVIRUS (STRAIN UK)	55-92						

PCGENE	P3CTLZIP	FILENAME	PROTEIN	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PV506_ROTIF	VP6 PROTEIN	ROTAVIRUS	ROTAVIRUS	ROTAVIRUS (STRAIN F1-14)	55-92						
PV506_ROTIF	VP6 PROTEIN	ROTAVIRUS	ROTAVIRUS	ROTAVIRUS (STRAIN H-2)	55-92						
PV506_ROTIF	VP6 PROTEIN	ROTAVIRUS	ROTAVIRUS	ROTAVIRUS (SEROTYPE 1 / STRAIN 1076)	55-92						
PV506_ROTIF	VP6 PROTEIN	ROTAVIRUS	ROTAVIRUS	HUMAN ROTAVIRUS (GROUP C / STRAIN BRISTOL)	64-92	312-340					
PV506_ROTIF	VP6 PROTEIN	ROTAVIRUS	ROTAVIRUS	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN S2)	55-92						
PV506_ROTIF	VP6 PROTEIN	ROTAVIRUS	ROTAVIRUS	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	55-92	313-349					
PV506_ROTIF	VP6 PROTEIN	ROTAVIRUS	ROTAVIRUS	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	64-92						
PV506_ROTIF	VP6 PROTEIN	ROTAVIRUS	ROTAVIRUS	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	55-92	313-349					
PV506_ROTIF	VP6 PROTEIN	ROTAVIRUS	ROTAVIRUS	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	55-92	313-349					
PV508_ROTIS	NONSTRUCTURAL PROTEIN NCVP4	ROTAVIRUS	ROTAVIRUS	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	274-302						
PV509_ROTIT	GLYCOPROTEIN VP7	ROTAVIRUS	ROTAVIRUS	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN ST. THOMAS 3)	131-159						
PV509_ROTIT	GLYCOPROTEIN VP7	ROTAVIRUS	ROTAVIRUS	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN BEN-144)	131-159						
PV510_ROTIN	NONSTRUCTURAL GLYCOPROTEIN NCVP5	ROTAVIRUS	ROTAVIRUS	BOVINE ROTAVIRUS (STRAIN NGD)	52-89						
PV510_ROTIN	NONSTRUCTURAL GLYCOPROTEIN NCVP5	ROTAVIRUS	ROTAVIRUS	BOVINE ROTAVIRUS (STRAIN UK)	52-89						
PV510_ROTIN	NONSTRUCTURAL GLYCOPROTEIN NCVP5	ROTAVIRUS	ROTAVIRUS	HUMAN ROTAVIRUS (STRAIN A28)	52-89						
PV510_ROTIN	NONSTRUCTURAL GLYCOPROTEIN NCVP5	ROTAVIRUS	ROTAVIRUS	HUMAN ROTAVIRUS (STRAIN A64 / CLONE 2)	52-89						
PV510_ROTIN	NONSTRUCTURAL GLYCOPROTEIN NCVP5	ROTAVIRUS	ROTAVIRUS	HUMAN ROTAVIRUS (STRAIN A64 / CLONE 6)	52-89						
PV510_ROTIN	NONSTRUCTURAL GLYCOPROTEIN NCVP5	ROTAVIRUS	ROTAVIRUS	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	52-89						
PV510_ROTIN	NONSTRUCTURAL GLYCOPROTEIN NCVP5	ROTAVIRUS	ROTAVIRUS	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	52-89						
PV511_ROTIN	MINOR OUTER CAPSID PROTEIN	ROTAVIRUS	ROTAVIRUS	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	99-130						
PV511_ROTIN	SIGMA 1 PROTEIN PRECURSOR	ROTAVIRUS	ROTAVIRUS	REOVIRUS (TYPE 2 / STRAIN D9/ONES)	346-384						
PV511_ROTIN	SIGMA 1 PROTEIN PRECURSOR	ROTAVIRUS	ROTAVIRUS	REOVIRUS (TYPE 1 / STRAIN LANG)	110-147						
PV511_ROTIN	SIGMA 1 PROTEIN PRECURSOR	ROTAVIRUS	ROTAVIRUS	SHOPE FIBROMA VIRUS (STRAIN KASZA) (SFV)	147-182						
PV511_ROTIN	PROTEIN T1 PRECURSOR	ROTAVIRUS	ROTAVIRUS	MYXOMA VIRUS (STRAIN LAUSANNE)	261-290						
PV511_ROTIN	TUMOR NECROSIS FACTOR SOLUBLE RECEPTOR PRECUR	ROTAVIRUS	ROTAVIRUS	SHOPE FIBROMA VIRUS (STRAIN KASZA) (SFV)	211-249						
PV511_ROTIN	TUMOR NECROSIS FACTOR SOLUBLE RECEPTOR PRECUR	ROTAVIRUS	ROTAVIRUS	SHOPE FIBROMA VIRUS (STRAIN KASZA) (SFV)	116-150						
PV511_ROTIN	PROTEIN T3A	ROTAVIRUS	ROTAVIRUS	CAPPOXVIRUS (STRAIN INS-1)	166-199	305-341					
PV511_ROTIN	PROBABLE DNA PACKAGING PROTEIN	ROTAVIRUS	ROTAVIRUS	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	176-209						
PV511_ROTIN	PROBABLE DNA PACKAGING PROTEIN	ROTAVIRUS	ROTAVIRUS	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	756-788						
PV511_ROTIN	PROBABLE DNA PACKAGING PROTEIN	ROTAVIRUS	ROTAVIRUS	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	57-93						
PV511_ROTIN	X PROTEIN	ROTAVIRUS	ROTAVIRUS	SENDAL VIRUS (STRAIN 694)	35-83						
PV511_ROTIN	HYPOTHETICAL 10.4 KD EARLY PROTEIN	ROTAVIRUS	ROTAVIRUS	HUMAN ADENOVIRUS TYPE 2	24-54						
PV511_ROTIN	HYPOTHETICAL 10.9 KD PROTEIN	ROTAVIRUS	ROTAVIRUS	MAIZE STREAK VIRUS (SOUTH-AFRICAN ISOLATE) (MSV)	22-59						
PV511_ROTIN	HYPOTHETICAL 10.9 KD PROTEIN	ROTAVIRUS	ROTAVIRUS	WHEAT DWARF VIRUS (WDV)	29-64						
PV511_ROTIN	HYPOTHETICAL 11.9 KD PROTEIN	ROTAVIRUS	ROTAVIRUS	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	29-61						
PV511_ROTIN	HYPOTHETICAL 11.9 KD PROTEIN (ORF VI)	ROTAVIRUS	ROTAVIRUS	PANICUM STREAK VIRUS	53-87						
PV511_ROTIN	HYPOTHETICAL 11.9 KD PROTEIN IN SEGMENT S11	ROTAVIRUS	ROTAVIRUS	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	28-62						
PV511_ROTIN	HYPOTHETICAL 11.2 KD PROTEIN	ROTAVIRUS	ROTAVIRUS	TOBACCO YELLOW DWARF VIRUS (STRAIN AUSTRALIA) (TYDV)	65-101						
PV511_ROTIN	HYPOTHETICAL 13.8 KD PROTEIN IN 39 KD PROTEIN 5REG	ROTAVIRUS	ROTAVIRUS	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACMPV)	100-132						
PV511_ROTIN	HYPOTHETICAL 18.0 KD PROTEIN (ORF B-166)	ROTAVIRUS	ROTAVIRUS	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	129-167						
PV511_ROTIN	HYPOTHETICAL 20.4 KD PROTEIN (ORF E-178)	ROTAVIRUS	ROTAVIRUS	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	122-155						
PV511_ROTIN	HYPOTHETICAL 21.7 KD PROTEIN	ROTAVIRUS	ROTAVIRUS	MAIZE STREAK VIRUS (NIGERIAN ISOLATE) (MSV)	99-137						
PV511_ROTIN	HYPOTHETICAL 21.7 KD PROTEIN	ROTAVIRUS	ROTAVIRUS	SOYBEAN CHLOROTIC MOTTLE VIRUS	250-282						
PV511_ROTIN	HYPOTHETICAL 37.7 KD PROTEIN (ORF2)	ROTAVIRUS	ROTAVIRUS	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACMPV)	274-312	543-580					
PV511_ROTIN	HYPOTHETICAL 83.7 KD PROTEIN (ORF C-792)	ROTAVIRUS	ROTAVIRUS	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	114-150						
PV511_ROTIN	HYPOTHETICAL 83.7 KD PROTEIN (ORF C-792)	ROTAVIRUS	ROTAVIRUS	FOWLPOX VIRUS (ISOLATE HP-438/MUNICH)	206-244						
PV511_ROTIN	HYPOTHETICAL 28.7 KD PROTEIN IN DHFR 3REGION (ORF	ROTAVIRUS	ROTAVIRUS	HERPESVIRUS SAMIRI (SUBGROUP C / STRAIN 488)	69-97						
PV511_ROTIN	HYPOTHETICAL 28.7 KD PROTEIN IN DHFR 3REGION (ORF	ROTAVIRUS	ROTAVIRUS	HERPESVIRUS SAMIRI (SUBGROUP C / STRAIN 488)	34-68						
PV511_ROTIN	HYPOTHETICAL 9.5 KD PROTEIN IN DHFR 3REGION (ORF	ROTAVIRUS	ROTAVIRUS	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	84-122						
PV511_ROTIN	HYPOTHETICAL EC-RF4 PROTEIN	ROTAVIRUS	ROTAVIRUS	BOVINE CORONA VIRUS	41-75	137-165					
PV511_ROTIN	HYPOTHETICAL EC-RF4 PROTEIN	ROTAVIRUS	ROTAVIRUS	BOVINE CORONA VIRUS (STRAIN F15)	41-75	137-165					
PV511_ROTIN	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF (ORF	ROTAVIRUS	ROTAVIRUS	BOVINE CORONA VIRUS (STRAIN MEBUS)	41-74	137-165					
PV511_ROTIN	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF (ORF	ROTAVIRUS	ROTAVIRUS	TURKEY ENTERIC CORONA VIRUS (TCV)	67-100						
PV511_ROTIN	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF (ORF	ROTAVIRUS	ROTAVIRUS	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	250-284						
PV511_ROTIN	HYPOTHETICAL BKRF2 PROTEIN	ROTAVIRUS	ROTAVIRUS	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	93-130	166-198					
PV511_ROTIN	BKRF2 PROTEIN	ROTAVIRUS	ROTAVIRUS	COMMELENA YELLOW MOTTLE VIRUS (COYMV)	23-56						
PV511_ROTIN	HYPOTHETICAL 23 KD PROTEIN (ORF1)	ROTAVIRUS	ROTAVIRUS	COMMELENA YELLOW MOTTLE VIRUS (COYMV)	7-39						
PV511_ROTIN	HYPOTHETICAL 13 KD PROTEIN (ORF2)	ROTAVIRUS	ROTAVIRUS	POTATO VIRUS X (STRAIN XC) (PVX)							
PV511_ROTIN	HYPOTHETICAL 13 KD PROTEIN (ORF2)	ROTAVIRUS	ROTAVIRUS	POTATO VIRUS X (STRAIN XC) (PVX)							
PV511_ROTIN	HYPOTHETICAL 13 KD PROTEIN (ORF 3) (FRAGMENT)	ROTAVIRUS	ROTAVIRUS	POTATO VIRUS X (STRAIN XC) (PVX)							

PCGENE	P33CTLZIP	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
FILENAME	PROTEIN	VIRUS							
PYOR3_WCMV	HYPOTHETICAL 13 KD PROTEIN (ORF 3)	WHITE CLOVER MOSAIC VIRUS (STRAIN M) (WCMV)	63-94						
PYOR3_WCMV	HYPOTHETICAL 13 KD PROTEIN (ORF 3)	WHITE CLOVER MOSAIC VIRUS (STRAIN O) (WCMV)	64-95						
PYOR3_ADEG1	HYPOTHETICAL 31.5 KD PROTEIN (ORF 5)	AVIAN ADENOVIRUS GAL1	237-272						
PYOR3_TTV1	HYPOTHETICAL 7.1 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	5-34						
PYOR3_TTV1	HYPOTHETICAL 38.6 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	233-263						
PYOR3_TTV1	HYPOTHETICAL 20.2 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	91-124						
PYR24 RTBV	HYPOTHETICAL P24 PROTEIN (ORF 1)	RICE TUNGRO BACILLIFORM VIRUS (RTBV)	104-133	159-191					
PYR24 RTBV	HYPOTHETICAL P24 PROTEIN (ORF 1)	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES) (RTBV)	104-133	159-191					
PYR47_NPVAC	HYPOTHETICAL 43.5 KD PROTEIN IN P47 REGION	AUTOGRAHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPV)	23-51						
PYR55_HSV6G	HYPOTHETICAL PROTEIN REF3	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	180-216						
PYR82_EBV	HYPOTHETICAL BRRF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	13-42						
PYR81_EBV	HYPOTHETICAL BSRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	92-120						
PYR81_EBV	HYPOTHETICAL BSRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	306-336						
PYR81_EBV	HYPOTHETICAL BTRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	21-53						
PYVAE_VACCC	HYPOTHETICAL 18.2 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	21-49						
PYVAL_VACCV	HYPOTHETICAL 9.9 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	22-53						
PYVBC_VACCC	HYPOTHETICAL 10.8 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	31-64						
PYVDG_VACCV	HYPOTHETICAL 10.4 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	8-42						
PYVEF_VACCC	HYPOTHETICAL 12.9 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	7-35						
PYVFC_VACCC	HYPOTHETICAL 11.6 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	79-57						
PZNP_LYCPA	ZINC FINGER PROTEIN	LYMPHOCTIC CHORIOMENINGITIS VIRUS (STRAIN ARMSTRONG)	8-32						
PZNP_LYCPV	ZINC FINGER PROTEIN (FRAGMENT)	LYMPHOCTIC CHORIOMENINGITIS VIRUS (STRAIN PASTEUR)	8-32						

TABLE XV
RESPIRATORY SYNCYTIAL VIRUS DP107 F2 REGION ANALOG
CARBOXY TRUNCATIONS

- T, 3200
- X-YTS-Z
 - X-YTSV-Z
 - 5 X-YTSVI-Z
 - X-YTSVIT-Z
 - X-YTSVITI-Z
 - X-YTSVITIE-Z
 - X-YTSVITIEL-Z
 - X-YTSVITIELS-Z
 - X-YTSVITIELSN-Z
 - 10 X-YTSVITIELSNI-Z
 - X-YTSVITIELSNIK-Z
 - X-YTSVITIELSNIKE-Z
 - X-YTSVITIELSNIKEN-Z
 - X-YTSVITIELSNIKENK-Z
 - X-YTSVITIELSNIKENKC-Z
 - X-YTSVITIELSNIKENKCN-Z
 - X-YTSVITIELSNIKENKCNG-Z
 - 15 X-YTSVITIELSNIKENKNGT-Z
 - X-YTSVITIELSNIKENKNGTD-Z
 - X-YTSVITIELSNIKENKNGTDA-Z
 - X-YTSVITIELSNIKENKNGTDAK-Z
 - X-YTSVITIELSNIKENKNGTDAKV-Z
 - X-YTSVITIELSNIKENKNGTDAKVK-Z
 - X-YTSVITIELSNIKENKNGTDAKVKL-Z
 - 20 X-YTSVITIELSNIKENKNGTDAKVKLI-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIK-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQ-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQE-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQEL-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELD-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDK-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKY-Z
 - 25 X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYK-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKN-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNA-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNAV-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNAVTE-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNAVTEL-Z
 - 30 X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNAVTELQ-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNAVTELQL-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNAVTELQLL-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNAVTELQLLM-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNAVTELQLLMQ-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNAVTELQLLMQS-Z
 - X-YTSVITIELSNIKENKNGTDAKVKLIQELDKYKNAVTELQLLMQST-Z

(SEQ ID NO:16)

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The one letter amino acid code is used.

Additionally,

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxycarbonyl (Fmoc) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

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TABLE XVI
RESPIRATORY SYNCYTIAL VIRUS F2 DP178/DP107 REGION ANALOG
AMINO TRUNCATIONS

	X-QST-Z
	X-MQST-Z
5	X-LMQST-Z
	X-LLMQST-Z
	X-QLLMQST-Z
	X-LQLLMQST-Z
	X-ELQLLMQST-Z
	X-TELQLLMQST-Z
	X-VTELQLLMQST-Z
10	X-AVTELQLLMQST-Z
	X-NAVTELQLLMQST-Z
	X-KNAVTELQLLMQST-Z
	X-YKNAVTELQLLMQST-Z
	X-KYKNAVTELQLLMQST-Z
	X-DKYKNAVTELQLLMQST-Z
	X-LDKYKNAVTELQLLMQST-Z
	X-ELDKYKNAVTELQLLMQST-Z
15	X-QELDKYKNAVTELQLLMQST-Z
	X-KQELDKYKNAVTELQLLMQST-Z
	X-IKQELDKYKNAVTELQLLMQST-Z
	X-LIKQELDKYKNAVTELQLLMQST-Z
	X-KLIKQELDKYKNAVTELQLLMQST-Z
	X-VKLIKQELDKYKNAVTELQLLMQST-Z
	X-KVKLIKQELDKYKNAVTELQLLMQST-Z
20	X-AKVLIKQELDKYKNAVTELQLLMQST-Z
	X-DAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-TDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-GTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-NGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-CNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-KCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-NKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
25	X-KENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-IKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-NIKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-SNIKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-LSNIKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-ELSNIKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-IELSNIKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
30	X-TIELSNIKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-ITIELSNIKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-VITIELSNIKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-SVITIELSNIKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z
	X-TSVITIELSNIKENKCNGTDAKVLIKQELDKYKNAVTELQLLMQST-Z

The one letter amino acid code is used.

35 Additionally,

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

5

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

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TABLE XVII
RESPIRATORY SYNCYTIAL VIRUS F1 DP178 REGION ANALOG
CARBOXY TRUNCATIONS

- T, 3240
- X-FYD-Z
 - X-FYDP-Z
 - X-FYDPL-Z
 - 5 X-FYDPLV-Z
 - X-FYDPLVF-Z
 - X-FYDPLVFP-Z
 - X-FYDPLVFPS-Z
 - X-FYDPLVFPSD-Z
 - X-FYDPLVFPSDE-Z
 - X-FYDPLVFPSDEF-Z
 - 10 X-FYDPLVFPSDEFD-Z
 - X-FYDPLVFPSDEFDA-Z
 - X-FYDPLVFPSDEFDAS-Z
 - X-FYDPLVFPSDEFDASI-Z
 - X-FYDPLVFPSDEFDASIS-Z
 - X-FYDPLVFPSDEFDASISQ-Z
 - X-FYDPLVFPSDEFDASISQV-Z
 - X-FYDPLVFPSDEFDASISQVN-Z
 - 15 X-FYDPLVFPSDEFDASISQVNE-Z
 - X-FYDPLVFPSDEFDASISQVNEK-Z
 - X-FYDPLVFPSDEFDASISQVNEKI-Z
 - X-FYDPLVFPSDEFDASISQVNEKIN-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQ-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQS-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQSL-Z
 - 20 X-FYDPLVFPSDEFDASISQVNEKINQSLA-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQSLAF-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQSLAFI-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQSLAFIR-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRK-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRKS-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRKSD-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRKSDE-Z
 - 25 X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRKSDEL-Z
 - X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRKSDELL-Z (SEQ ID NO:17)

The one letter amino acid code is used.

P Additionally,
30 "X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (Fmoc) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

P
35 "Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier

group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

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TABLE XVIII
RESPIRATORY SYNCYTIAL VIRUS F1 DP178 REGION ANALOG
AMINO TRUNCATIONS

T₃₂₆₀

	X-DELL-Z
	X-SDELL-Z
5	X-KSDELL-Z
	X-RKSDELL-Z
	X-IRKSDELL-Z
	X-FIRKSDELL-Z
	X-AFIRKSDELL-Z
	X-LAFIRKSDELL-Z
	X-SLAFIRKSDELL-Z
10	X-QSLAFIRKSDELL-Z
	X-NQSLAFIRKSDELL-Z
	X-INQSLAFIRKSDELL-Z
	X-KINQSLAFIRKSDELL-Z
	X-EKINQSLAFIRKSDELL-Z
	X-NEKINQSLAFIRKSDELL-Z
	X-VNEKINQSLAFIRKSDELL-Z
	X-QVNEKINQSLAFIRKSDELL-Z
15	X-SQVNEKINQSLAFIRKSDELL-Z
	X-ISQVNEKINQSLAFIRKSDELL-Z
	X-SISQVNEKINQSLAFIRKSDELL-Z
	X-ASISQVNEKINQSLAFIRKSDELL-Z
	X-DASISQVNEKINQSLAFIRKSDELL-Z
	X-FDASISQVNEKINQSLAFIRKSDELL-Z
	X-EFDASISQVNEKINQSLAFIRKSDELL-Z
20	X-DEFDASISQVNEKINQSLAFIRKSDELL-Z
	X-PSDEFDASISQVNEKINQSLAFIRKSDELL-Z
	X-FPSDEFDASISQVNEKINQSLAFIRKSDELL-Z
	X-VFPSDEFDASISQVNEKINQSLAFIRKSDELL-Z
	X-LVFPDEFDASISQVNEKINQSLAFIRKSDELL-Z
	X-PLVFPDEFDASISQVNEKINQSLAFIRKSDELL-Z
25	X-DPLVFPDEFDASISQVNEKINQSLAFIRKSDELL-Z
	X-YDPLVFPDEFDASISQVNEKINQSLAFIRKSDELL-Z

— p The one letter amino acid code is used.

p Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxy, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (Fmoc) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

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p "Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE XIX
HUMAN PARAINFLUENZA VIRUS 3 F1 REGION DP178 ANALOG
CARBOXY TRUNCATIONS

T₁3270

5 X-ITL-Z
X-ITLN-Z
X-ITLNN-Z
X-ITLNNS-Z
X-ITLNNSV-Z
X-ITLNNSVA-Z
X-ITLNNSVAL-Z
X-ITLNNSVALD-Z
X-ITLNNSVALDP-Z
X-ITLNNSVALDPI-Z
10 X-ITLNNSVALDPID-Z
X-ITLNNSVALDPIDI-Z
X-ITLNNSVALDPIDIS-Z
X-ITLNNSVALDPIDISI-Z
X-ITLNNSVALDPIDISIE-Z
X-ITLNNSVALDPIDISIEL-Z
X-ITLNNSVALDPIDISIELN-Z
X-ITLNNSVALDPIDISIELNK-Z
15 X-ITLNNSVALDPIDISIELNKA-Z
X-ITLNNSVALDPIDISIELNKAK-Z
X-ITLNNSVALDPIDISIELNKAKS-Z
X-ITLNNSVALDPIDISIELNKAKSD-Z
X-ITLNNSVALDPIDISIELNKAKSDL-Z
X-ITLNNSVALDPIDISIELNKAKSDLE-Z
X-ITLNNSVALDPIDISIELNKAKSDLEE-Z
20 X-ITLNNSVALDPIDISIELNKAKSDLEES-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESK-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKE-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKEW-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKEWI-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKEWIR-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKEWIRR-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKEWIRRS-Z (SEQ ID NO:18)

25 p The one letter amino acid code is used.

p Additionally,
"X" may represent an amino group, a hydrophobic group,
including but not limited to carbobenzoxy, dansyl, or
T-butyloxycarbonyl; an acetyl group; a 9-
30 fluorenylmethoxy-carbonyl (Fmoc) group; a
macromolecular carrier group including but not limited
to lipid-fatty acid conjugates, polyethylene glycol,
or carbohydrates.

p "Z" may represent a carboxyl group; an amido group; a
T-butyloxycarbonyl group; a macromolecular carrier
group including but not limited to lipid-fatty acid
35 conjugates, polyethylene glycol, or carbohydrates.

TABLE XX
HUMAN PARAINFLUENZA VIRUS 3 F1 REGION DP178 ANALOG
AMINO TRUNCATIONS

T₁3280

	X-RRS-Z
	X-IRRS-Z
5	X-WIRRS-Z
	X-EWIRRS-Z
	X-KEWIRRS-Z
	X-SKEWIRRS-Z
	X-ESKEWIRRS-Z
	X-EESKEWIRRS-Z
	X-LEESKEWIRRS-Z
10	X-DLEESKEWIRRS-Z
	X-SDLEESKEWIRRS-Z
	X-KSDLEESKEWIRRS-Z
	X-AKSDLEESKEWIRRS-Z
	X-KAKSDLEESKEWIRRS-Z
	X-NKAKSDLEESKEWIRRS-Z
	X-LNKAKSDLEESKEWIRRS-Z
	X-ELNKAKSDLEESKEWIRRS-Z
15	X-IELNKAKSDLEESKEWIRRS-Z
	X-SIELNKAKSDLEESKEWIRRS-Z
	X-ISIELNKAKSDLEESKEWIRRS-Z
	X-DISIELNKAKSDLEESKEWIRRS-Z
	X-IDISIELNKAKSDLEESKEWIRRS-Z
	X-PIDISIELNKAKSDLEESKEWIRRS-Z
	X-DPIDISIELNKAKSDLEESKEWIRRS-Z
20	X-LDPIDISIELNKAKSDLEESKEWIRRS-Z
	X-ALDPIDISIELNKAKSDLEESKEWIRRS-Z
	X-VALDPIDISIELNKAKSDLEESKEWIRRS-Z
	X-SVALDPIDISIELNKAKSDLEESKEWIRRS-Z
	X-NSVALDPIDISIELNKAKSDLEESKEWIRRS-Z
	X-NNSVALDPIDISIELNKAKSDLEESKEWIRRS-Z
	X-LNNSVALDPIDISIELNKAKSDLEESKEWIRRS-Z
	X-TLNNVALDPIDISIELNKAKSDLEESKEWIRRS-Z

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p The one letter amino acid code is used.

p Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxy, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (Fmoc) group; a
30 macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

p "Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid
35 conjugates, polyethylene glycol, or carbohydrates.

TABLE XXI
HUMAN PARAINFLUENZA VIRUS 3 F1 REGION DP107 ANALOG
CARBOXY TRUNCATIONS

T₁3290

	X-ALG-Z
	X-ALGV-Z
	X-ALGVA-Z
5	X-ALGVAT-Z
	X-ALGVATS-Z
	X-ALGVATSA-Z
	X-ALGVATSAQ-Z
	X-ALGVATSAQI-Z
	X-ALGVATSAQIT-Z
	X-ALGVATSAQITA-Z
10	X-ALGVATSAQITAA-Z
	X-ALGVATSAQITA-AV-Z
	X-ALGVATSAQITA-AVA-Z
	X-ALGVATSAQITA-AVAL-Z
	X-ALGVATSAQITA-AVALV-Z
	X-ALGVATSAQITA-AVALVE-Z
	X-ALGVATSAQITA-AVALVEA-Z
	X-ALGVATSAQITA-AVALVEAK-Z
15	X-ALGVATSAQITA-AVALVEAKQ-Z
	X-ALGVATSAQITA-AVALVEAKQA-Z
	X-ALGVATSAQITA-AVALVEAKQAR-Z
	X-ALGVATSAQITA-AVALVEAKQARS-Z
	X-ALGVATSAQITA-AVALVEAKQARSD-Z
	X-ALGVATSAQITA-AVALVEAKQARSDI-Z
	X-ALGVATSAQITA-AVALVEAKQARSDIE-Z
20	X-ALGVATSAQITA-AVALVEAKQARSDIEK-Z
	X-ALGVATSAQITA-AVALVEAKQARSDIEKL-Z
	X-ALGVATSAQITA-AVALVEAKQARSDIEKLK-Z
	X-ALGVATSAQITA-AVALVEAKQARSDIEKLKE-Z
	X-ALGVATSAQITA-AVALVEAKQARSDIEKLKEA-Z
	X-ALGVATSAQITA-AVALVEAKQARSDIEKLKEAI-Z
	X-ALGVATSAQITA-AVALVEAKQARSDIEKLKEAIR-Z

(SEQ ID NO:19)

25p The one letter amino acid code is used.

p Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (Fmoc) group; a
30 macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

p "Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid
35 conjugates, polyethylene glycol, or carbohydrates.

TABLE XXII
HUMAN PARAINFLUENZA VIRUS 3 F1 REGION DP107 ANALOG
AMINO TRUNCATIONS

T,3300

5	X-IRD-Z
	X-AIRD-Z
	X-EAIRD-Z
	X-KEAIRD-Z
	X-LKEAIRD-Z
	X-KLKEAIRD-Z
	X-EKLKEAIRD-Z
	X-IEKLKEAIRD-Z
	X-DIEKLKEAIRD-Z
10	X-SDIEKLKEAIRD-Z
	X-RSDIEKLKEAIRD-Z
	X-ARSDIEKLKEAIRD-Z
	X-QARSDIEKLKEAIRD-Z
	X-KQARSDIEKLKEAIRD-Z
	X-AKQARSDIEKLKEAIRD-Z
	X-EAKQARSDIEKLKEAIRD-Z
	X-VEAKQARSDIEKLKEAIRD-Z
15	X-LVEAKQARSDIEKLKEAIRD-Z
	X-ALVEAKQARSDIEKLKEAIRD-Z
	X-VALVEAKQARSDIEKLKEAIRD-Z
	X-AVALVEAKQARSDIEKLKEAIRD-Z
	X-AAVALVEAKQARSDIEKLKEAIRD-Z
	X-TAAVALVEAKQARSDIEKLKEAIRD-Z
	X-ITAAVALVEAKQARSDIEKLKEAIRD-Z
20	X-QITAAVALVEAKQARSDIEKLKEAIRD-Z
	X-AQITAAVALVEAKQARSDIEKLKEAIRD-Z
	X-SAQITAAVALVEAKQARSDIEKLKEAIRD-Z
	X-TSAQITAAVALVEAKQARSDIEKLKEAIRD-Z
	X-ATSAQITAAVALVEAKQARSDIEKLKEAIRD-Z
	X-VATSAQITAAVALVEAKQARSDIEKLKEAIRD-Z
	X-GVATSAQITAAVALVEAKQARSDIEKLKEAIRD-Z
	X-LGVATSAQITAAVALVEAKQARSDIEKLKEAIRD-Z

25 p The one letter amino acid code is used.

p Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxy, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (Fmoc) group; a
30 macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

p "Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid
35 conjugates, polyethylene glycol, or carbohydrates.

TABLE XXIII
REPRESENTATIVE DP107/DP178 ANALOG ANTIVIRAL PEPTIDES

Anti-Respiratory syncytial virus peptides

- 5 X-TSVITIELSNIKENKNCNGTDAKVKLIKQELDKYKN-Z
X-SVITIELSNIKENKNCNGTDAKVKLIKQELDKYKNA-Z
X-VITIELSNIKENKNCNGTDAKVKLIKQELDKYKNAV-Z
X-VAVSKVLHLEGEVNKIALLLSTNKAVVSLNSGVSV-Z (SEQ ID NO: 20)
X-AVSKVLHLEGEVNKIALLLSTNKAVVSLNSGVSV-Z (SEQ ID NO: 21)
X-VSKVLHLEGEVNKIALLLSTNKAVVSLNSGVSVL-Z (SEQ ID NO: 22)
X-SKVLHLEGEVNKIALLLSTNKAVVSLNSGVSVLT-Z (SEQ ID NO: 23)
X-KVLHLEGEVNKIALLLSTNKAVVSLNSGVSVLTS-Z (SEQ ID NO: 24)
X-LEGEVNKIALLLSTNKAVVSLNSGVSVLT-SKVLD-Z (SEQ ID NO: 25)
10 X-GEVNKIALLLSTNKAVVSLNSGVSVLT-SKVLDLKN-Z (SEQ ID NO: 26)
X-EVNKIALLLSTNKAVVSLNSGVSVLT-SKVLDLKNY-Z (SEQ ID NO: 27)
X-VNKIALLLSTNKAVVSLNSGVSVLT-SKVLDLKNYI-Z (SEQ ID NO: 28)
X-KIALLLSTNKAVVSLNSGVSVLT-SKVLDLKNYID-Z (SEQ ID NO: 29)
X-IALLLSTNKAVVSLNSGVSVLT-SKVLDLKNYIDK-Z (SEQ ID NO: 30)
X-ALLSTNKAVVSLNSGVSVLT-SKVLDLKNYIDKQ-Z (SEQ ID NO: 31)
X-VAVSKVLHLEGEVNKIALLLSTNKAVVSLNSGVSV-Z (SEQ ID NO: 32)
15 X-AVSKVLHLEGEVNKIALLLSTNKAVVSLNSGVSV-Z
X-VSKVLHLEGEVNKIALLLSTNKAVVSLNSGVSVL-Z
X-SKVLHLEGEVNKIALLLSTNKAVVSLNSGVSVLT-Z
X-KVLHLEGEVNKIALLLSTNKAVVSLNSGVSVLTS-Z
X-LEGEVNKIALLLSTNKAVVSLNSGVSVLT-SKVLD-Z
X-GEVNKIALLLSTNKAVVSLNSGVSVLT-SKVLDLKN-Z
X-EVNKIALLLSTNKAVVSLNSGVSVLT-SKVLDLKNY-Z
20 X-VNKIALLLSTNKAVVSLNSGVSVLT-SKVLDLKNYI-Z
X-KIALLLSTNKAVVSLNSGVSVLT-SKVLDLKNYID-Z
X-IALLLSTNKAVVSLNSGVSVLT-SKVLDLKNYIDK-Z
X-ALLSTNKAVVSLNSGVSVLT-SKVLDLKNYIDKQ-Z

Anti-human parainfluenza virus 3 peptides

- 25 X-TLNNSVALDPIDISIELNKAQSDLEESKEWIRRSN-Z (SEQ ID NO: 33)
X-LNNSVALDPIDISIELNKAQSDLEESKEWIRRSNQ-Z (SEQ ID NO: 34)
X-NNSVALDPIDISIELNKAQSDLEESKEWIRRSNQK-Z (SEQ ID NO: 35)
X-NSVALDPIDISIELNKAQSDLEESKEWIRRSNQKL-Z (SEQ ID NO: 36)
X-SVALDPIDISIELNKAQSDLEESKEWIRRSNQKLD-Z (SEQ ID NO: 37)
X-VALDPIDISIELNKAQSDLEESKEWIRRSNQKLD-S-Z (SEQ ID NO: 38)
X-ALDPIDISIELNKAQSDLEESKEWIRRSNQKLD-SI-Z (SEQ ID NO: 39)
30 X-LDPIDISIELNKAQSDLEESKEWIRRSNQKLD-SIG-Z (SEQ ID NO: 40)
X-DPIDISIELNKAQSDLEESKEWIRRSNQKLD-SIGN-Z (SEQ ID NO: 41)
X-PIDISIELNKAQSDLEESKEWIRRSNQKLD-SIGNW-Z (SEQ ID NO: 42)
X-IDISIELNKAQSDLEESKEWIRRSNQKLD-SIGNWH-Z (SEQ ID NO: 43)
X-DISIELNKAQSDLEESKEWIRRSNQKLD-SIGNWHQ-Z (SEQ ID NO: 44)
X-ISIELNKAQSDLEESKEWIRRSNQKLD-SIGNWHQS-Z (SEQ ID NO: 45)
X-SIELNKAQSDLEESKEWIRRSNQKLD-SIGNWHQSS-Z (SEQ ID NO: 46)
X-IELNKAQSDLEESKEWIRRSNQKLD-SIGNWHQSST-Z (SEQ ID NO: 47)
35 X-ELNKAQSDLEESKEWIRRSNQKLD-SIGNWHQSSTT-Z (SEQ ID NO: 48)
X-TAAVALVEAKQARSIDIEKLKEAIRDTNKAVQSVQS-Z (SEQ ID NO: 49)

X-AVALVEAKQARSDIEKLKEAIRD TNKAVQSVQSSI-Z> (SEQ ID NO: 50)
 X-LVEAKQARSDIEKLKEAIRD TNKAVQSVQSSIGNL-Z> (SEQ ID NO: 51)
 X-VEAKQARSDIEKLKEAIRD TNKAVQSVQSSIGNLI-Z> (SEQ ID NO: 52)
 X-EAKQARSDIEKLKEAIRD TNKAVQSVQSSIGNLIV-Z> (SEQ ID NO: 53)
 X-AKQARSDIEKLKEAIRD TNKAVQSVQSSIGNLIVA-Z> (SEQ ID NO: 54)
 X-KQARSDIEKLKEAIRD TNKAVQSVQSSIGNLIVAI-Z> (SEQ ID NO: 55)
 X-QARSDIEKLKEAIRD TNKAVQSVQSSIGNLIVAIK-Z> (SEQ ID NO: 56)
 5 X-ARSDIEKLKEAIRD TNKAVQSVQSSIGNLIVAIKS-Z> (SEQ ID NO: 57)
 X-RSDIEKLKEAIRD TNKAVQSVQSSIGNLIVAIKSV-Z> (SEQ ID NO: 58)
 X-SDIEKLKEAIRD TNKAVQSVQSSIGNLIVAIKSVQ-Z> (SEQ ID NO: 59)
 X-KLKEAIRD TNKAVQSVQSSIGNLIVAIKSVQDYVN-Z> (SEQ ID NO: 60)
 X-LKEAIRD TNKAVQSVQSSIGNLIVAIKSVQDYV NK-Z> (SEQ ID NO: 61)
 X-AIRD TNKAVQSVQSSIGNLIVAIKSVQDYVNKEIV-Z> (SEQ ID NO: 62)

10 Anti-simian immunodeficiency virus peptides

X-WQEWERKVD FLEENITALLEEAQIQQEK NMYELQK-Z> (SEQ ID NO: 63)
 X-QEWERKVD FLEENITALLEEAQIQQEK NMYELQKL-Z> (SEQ ID NO: 64)
 X-EWERKVD FLEENITALLEEAQIQQEK NMYELQKLN-Z> (SEQ ID NO: 65)
 X-WERKVD FLEENITALLEEAQIQQEK NMYELQKLNS-Z> (SEQ ID NO: 66)
 X-ERKVD FLEENITALLEEAQIQQEK NMYELQKLNSW-Z> (SEQ ID NO: 67)
 X-RKVD FLEENITALLEEAQIQQEK NMYELQKLNSWD-Z> (SEQ ID NO: 68)
 15 X-KVD FLEENITALLEEAQIQQEK NMYELQKLNSWDV-Z> (SEQ ID NO: 69)
 X-VDFLEENITALLEEAQIQQEK NMYELQKLNSWDVF-Z> (SEQ ID NO: 70)
 X-DFLEENITALLEEAQIQQEK NMYELQKLNSWDVFG-Z> (SEQ ID NO: 71)
 X-FLEENITALLEEAQIQQEK NMYELQKLNSWDVFGN-Z> (SEQ ID NO: 72)

Anti-measles virus peptides

20 X-LHRIDLGP PISLERLDVGTNLGN AIAKLEAKELL-Z> (SEQ ID NO: 73)
 X-HRIDLGPPISLERLDVGTNLGN AIAKLEAKELLE-Z> (SEQ ID NO: 74)
 X-RIDLGP PISLERLDVGTNLGN AIAKLEAKELLES-Z> (SEQ ID NO: 75)
 X-IDLGPPISLERLDVGTNLGN AIAKLEAKELLESS-Z> (SEQ ID NO: 76)
 X-DLGPPISLERLDVGTNLGN AIAKLEAKELLESSD-Z> (SEQ ID NO: 77)
 X-LGPPISLERLDVGTNLGN AIAKLEAKELLESSDQ-Z> (SEQ ID NO: 78)
 X-GPPISLERLDVGTNLGN AIAKLEAKELLESSDQI-Z> (SEQ ID NO: 79)
 25 X-PPISLERLDVGTNLGN AIAKLEAKELLESSDQIL-Z> (SEQ ID NO: 80)
 X-PISLERLDVGTNLGN AIAKLEAKELLESSDQILR-Z> (SEQ ID NO: 81)
 X-SLERLDVGTNLGN AIAKLEAKELLESSDQILRSM-Z> (SEQ ID NO: 82)
 X-LERLDVGTNLGN AIAKLEAKELLESSDQILRSMK-Z> (SEQ ID NO: 83)

The one letter amino acid code is used.

30p Additionally,
 "X" may represent an amino group, a hydrophobic group,
 including but not limited to carbobenzoxy, dansyl, or
 T-butyloxycarbonyl; an acetyl group; a 9-
 fluorenylmethoxy-carbonyl (Fmoc) group; a
 macromolecular carrier group including but not limited
 to lipid-fatty acid conjugates, polyethylene glycol,
 or carbohydrates.

35

p

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

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CLV/L 5.4. SYNTHESIS OF PEPTIDES

5 The peptides of the invention may be synthesized
or prepared by techniques well known in the art. See,
for example, Creighton, 1983, Proteins: Structures
and Molecular Principles, W.H. Freeman and Co., NY,
10 which is incorporated herein by reference in its
entirety. Short peptides, for example, can be
synthesized on a solid support or in solution. Longer
peptides may be made using recombinant DNA techniques.
15 Here, the nucleotide sequences encoding the peptides
of the invention may be synthesized, and/or cloned,
and expressed according to techniques well known to
those of ordinary skill in the art. See, for example,
Sambrook, et al., 1989, Molecular Cloning, A
Laboratory Manual, Vols. 1-3, Cold Spring Harbor
Press, NY.

20 The peptides of the invention may alternatively
be synthesized such that one or more of the bonds
which link the amino acid residues of the peptides are
non-peptide bonds. These alternative non-peptide
bonds may be formed by utilizing reactions well known
to those in the art, and may include, but are not
limited to imino, ester, hydrazide, semicarbazide, and
azo bonds, to name but a few. In yet another
25 embodiment of the invention, peptides comprising the
sequences described above may be synthesized with
additional chemical groups present at their amino
and/or carboxy termini, such that, for example, the
stability, bioavailability, and/or inhibitory activity
30 of the peptides is enhanced. For example, hydrophobic
groups such as carbobenzoxy, dansyl, or t-
butyloxycarbonyl groups, may be added to the peptides'
amino termini. Likewise, an acetyl group or a 9-
fluorenylmethoxy-carbonyl group may be placed at the
35 peptides' amino termini. (See "X" in Tables I to IV,

above.) Additionally, the hydrophobic group, t-butyloxycarbonyl, or an amido group may be added to the peptides' carboxy termini. (See "Z" in Tables I to IV, above.)

5 Further, the peptides of the invention may be synthesized such that their steric configuration is altered. For example, the D-isomer of one or more of the amino acid residues of the peptide may be used, rather than the usual L-isomer.

10 Still further, at least one of the amino acid residues of the peptides of the invention may be substituted by one of the well known non-naturally occurring amino acid residues. Alterations such as these may serve to increase the stability, bioavailability and/or inhibitory action of the
15 peptides of the invention.

Any of the peptides described above may, additionally, have a macromolecular carrier group covalently attached to their amino and/or carboxy termini. Such macromolecular carrier groups may
20 include, for example, lipid-fatty acid conjugates, polyethylene glycol, carbohydrates or additional peptides. "X", in Tables I to IV, above, may therefore additionally represent any of the above macromolecular carrier groups covalently attached to
25 the amino terminus of a peptide, with an additional peptide group being preferred. Likewise, "Z", in Tables I to IV, may additionally represent any of the macromolecular carrier groups described above.

30 *CL 012* 5.5. ASSAYS FOR ANTI-MEMBRANE FUSION ACTIVITY

Described herein, are methods for ability of a compound, such as the peptides of the invention, to inhibit membrane fusion events. Specifically, assays for cell fusion events are described in Section 5.5.1,
35

below, and assays for antiviral activity are described in Section 5.5.2, below.

CL V/L 5.5.1 ASSAYS FOR CELL FUSION EVENTS

5 Assays for cell fusion events are well known to those of skill in the art, and may be used in conjunction, for example, with the peptides of the invention to test the peptides' antifusogenic capabilities.

10 Cell fusion assays are generally performed in vitro. Such an assay may comprise culturing cells which, in the absence of any treatment would undergo an observable level of syncytial formation. For example, uninfected cells may be incubated in the presence of cells chronically infected with a virus
15 that induces cell fusion. Such viruses may include, but are not limited to, HIV, SIV, or respiratory syncytial virus.

For the assay, cells are incubated in the presence of a peptide to be assayed. For each
20 peptide, a range of peptide concentrations may be tested. This range should include a control culture wherein no peptide has been added.

Standard conditions for culturing cells, well known to those of ordinary skill in the art, are used.
25 After incubation for an appropriate period (24 hours at 37°C, for example) the culture is examined microscopically for the presence of multinucleated giant cells, which are indicative of cell fusion and syncytial formation. Well known stains, such as
30 crystal violet stain, may be used to facilitate the visualization of syncytial formation.

CL V/L 5.5.2 ASSAYS FOR ANTIVIRAL ACTIVITY

35 The antiviral activity exhibited by the peptides of the invention may be measured, for example, by

easily performed in vitro assays, such as those described below, which can test the peptides' ability to inhibit syncytia formation, or their ability to inhibit infection by cell-free virus. Using these assays, such parameters as the relative antiviral activity of the peptides, exhibit against a given strain of virus and/or the strain specific inhibitory activity of the peptide can be determined.

A cell fusion assay may be utilized to test the peptides' ability to inhibit viral-induced, such as HIV-induced, syncytia formation in vitro. Such an assay may comprise culturing uninfected cells in the presence of cells chronically infected with a syncytial-inducing virus and a peptide to be assayed. For each peptide, a range of peptide concentrations may be tested. This range should include a control culture wherein no peptide has been added. Standard conditions for culturing, well known to those of ordinary skill in the art, are used. After incubation for an appropriate period (24 hours at 37°C, for example) the culture is examined microscopically for the presence of multinucleated giant cells, which are indicative of cell fusion and syncytia formation. Well known stains, such as crystal violet stain, may be used to facilitate syncytial visualization. Taking HIV as an example, such an assay would comprise CD-4⁺ cells (such as Molt or CEM cells, for example) cultured in the presence of chronically HIV-infected cells and a peptide to be assayed.

Other well known characteristics of viral infection may also be assayed to test a peptide's antiviral capabilities. Once again taking HIV as an example, a reverse transcriptase (RT) assay may be utilized to test the peptides' ability to inhibit infection of CD-4⁺ cells by cell-free HIV. Such an assay may comprise culturing an appropriate

concentration (i.e., TCID₅₀) of virus and CD-4⁺ cells in the presence of the peptide to be tested. Culture conditions well known to those in the art are used. As above, a range of peptide concentrations may be used, in addition to a control culture wherein no peptide has been added. After incubation for an appropriate period (e.g., 7 days) of culturing, a cell-free supernatant is prepared, using standard procedures, and tested for the presence of RT activity as a measure of successful infection. The RT activity may be tested using standard techniques such as those described by, for example, Goff et al. (Goff, S. et al., 1981, J. Virol. 38:239-248) and/or Willey et al. (Willey, R. et al., 1988, J. Virol. 62:139-147). These references are incorporated herein by reference in their entirety.

Standard methods which are well-known to those of skill in the art may be utilized for assaying non-retroviral activity. See, for example, Pringle et al. (Pringle, C.R. et al., 1985, J. Medical Virology 17:377-386) for a discussion of respiratory syncytial virus and parainfluenza virus activity assay techniques. Further, see, for example, "Zinsser Microbiology", 1988, Joklik, W.K. et al., eds., Appleton & Lange, Norwalk, CT, 19th ed., for a general review of such techniques. These references are incorporated by reference herein in their entirety. In addition, the Examples presented below, in Sections 17, 18, 26 and 27 each provide additional assays for the testing of a compound's antiviral capability.

In vivo assays may also be utilized to test, for example, the antiviral activity of the peptides of the invention. To test for anti-HIV activity, for example, the in vivo model described in Barnett et al. (Barnett, S.W. et al., 1994, Science 266:642-646) may be used.

Additionally, anti-RSV activity can be assayed in vivo via well known mouse models. For example, RSV can be administered intranasally to mice of various inbred strains. Virus replicates in lungs of all strains, but the highest titers are obtained in P/N, C57L/N and DBA/2N mice. Infection of BALB/c mice produces an asymptomatic bronchiolitis characterized by lymphocytic infiltrates and pulmonary virus titers of 10^4 to 10^5 pfu/g of lung tissue (Taylor, G. et al., 1984, Infect. Immun. 43:649-655).

Cotton rat models of RSV are also well known. Virus replicates to high titer in the nose and lungs of the cotton rat but produces few if any signs of inflammation.

¹⁵ CL D/L 5.6. USES OF THE PEPTIDES OF THE INVENTION

¹⁵ P The peptides of the invention may be utilized as antifusogenic or antiviral compounds, or as compounds which modulate intracellular processes involving coiled coil peptide structures. Further, such peptides may be used to identify agents which exhibit antifusogenic, antiviral or intracellular modulatory activity. Still further, the peptides of the invention may be utilized as organism or viral type/subtype-specific diagnostic tools.

²⁵ The antifusogenic capability of the peptides of the invention may additionally be utilized to inhibit or treat/ameliorate symptoms caused by processes involving membrane fusion events. Such events may include, for example, virus transmission via cell-cell fusion, abnormal neurotransmitter exchange via cell-fusion, and sperm-egg fusion. Further, the peptides of the invention may be used to inhibit free viral, such as retroviral, particularly HIV, transmission to uninfected cells wherein such viral infection involves membrane fusion events or involves fusion of a viral

structure with a cell membrane. Among the intracellular disorders involving coiled coil peptides structures which may be ameliorated by the peptides of the invention are disorders involving, for example, bacterial toxins.

5 With respect to antiviral activity, the viruses whose transmission may be inhibited by the peptides of the invention include, but are not limited to all strains of the viruses listed above, in Tables V through VII, and IX through XIV.

10 These viruses include, for example, human retroviruses, particularly HIV-1 and HIV-2 and the human T-lymphocyte viruses (HTLV-I and II). The non-human retroviruses whose transmission may be inhibited by the peptides of the invention include, but are not
15 limited to bovine leukosis virus, feline sarcoma and leukemia viruses, simian immunodeficiency, sarcoma and leukemia viruses, and sheep progress pneumonia viruses.

20 Non retroviral viruses whose transmission may be inhibited by the peptides of the invention include, but are not limited to human respiratory syncytial virus, canine distemper virus, newcastle disease virus, human parainfluenza virus, influenza viruses, measles viruses, Epstein-Barr viruses, hepatitis B
25 viruses, and simian Mason-Pfizer viruses.

Non enveloped viruses whose transmission may be inhibited by the peptides of the invention include, but are not limited to picornaviruses such as polio viruses, hepatitis A virus, enterovirus, echoviruses
30 and coxsackie viruses, papovaviruses such as papilloma virus, parvoviruses, adenoviruses and reoviruses.

As discussed more fully, below, in Section 5.5.1 and in the Example presented, below, in Section 8, DP107, DP178, DP107 analog and DP178 analog peptides
35 form non-covalent protein-protein interactions which

are required for normal activity of the virus. Thus, the peptides of the invention may also be utilized as components in assays for the identification of compounds that interfere with such protein-protein interactions and may, therefore, act as antiviral agents. These assays are discussed, below, in Section 5.5.1.

As demonstrated in the Example presented below in Section 6, the antiviral activity of the peptides of the invention may show a pronounced type and subtype specificity, i.e., specific peptides may be effective
* in inhibiting the activity of only specific viruses. This feature of the invention presents many advantages. One such advantage, for example, lies in the field of diagnostics, wherein one can use the antiviral specificity of the peptide of the invention to ascertain the identity of a viral isolate. With respect to HIV, one may easily determine whether a viral isolate consists of an HIV-1 or HIV-2 strain. For example, uninfected CD-4⁺ cells may be co-infected with an isolate which has been identified as containing HIV the DP178 (SEQ ID:1) peptide, after which the retroviral activity of cell supernatants may be assayed, using, for example, the techniques described above in Section 5.2. Those isolates whose retroviral activity is completely or nearly completely inhibited contain HIV-1. Those isolates whose viral activity is unchanged or only reduced by a small amount, may be considered to not contain HIV-1. Such an isolate may then be treated with one or more of the other DP178 peptides of the invention, and subsequently be tested for its viral activity in order to determine the identify of the viral isolate. The DP107 and DP178 analogs of the invention may also be utilized in a diagnostic capacity specific to the type and subtype of virus or organism in which the specific

peptide sequence is found. A diagnostic procedure as described, above, for DP178, may be used in conjunction with the DP107/DP178 analog of interest.

CLV/C 5.5.1. SCREENING ASSAYS

5 As demonstrated in the Example presented in Section 8, below, DP107 and DP178 portions of the TM protein gp41 form non-covalent protein-protein interactions. As is also demonstrated, the maintenance of such interactions is necessary for
10 normal viral infectivity. Thus, compounds which bind DP107, bind DP178, and/or act to disrupt normal DP107/DP178 protein-protein interactions may act as antifusogenic, antiviral or cellular modulatory agents. Described below are assays for the
15 identification of such compounds. Note that, while, for ease and clarity of discussion, DP107 and DP178 peptides will be used as components of the assays described, but it is to be understood that any of the DP107 analog or DP178 analog peptides described,
20 above, in Sections 5.1 through 5.3 may also be utilized as part of these screens for compounds.

Compounds which may be tested for an ability to bind DP107, DP178, and/or disrupt DP107/DP178 interactions, and which therefore, potentially
25 represent antifusogenic, antiviral or intracellular modulatory compounds, include, but are not limited to, peptides made of D- and/or L-configuration amino acids (in, for example, the form of random peptide libraries; see Lam, K.S. et al., 1991, Nature 354:82-
30 84), phosphopeptides (in, for example, the form of random or partially degenerate, directed phosphopeptide libraries; see, for example, Songyang, Z. et al., 1993, Cell 72:767-778), antibodies, and small organic or inorganic molecules. Synthetic
35 compounds, natural products, and other sources of

potentially effective materials may be screened in a variety of ways, as described in this Section.

The compounds, antibodies, or other molecules identified may be tested, for example, for an ability to inhibit cell fusion or viral activity, utilizing, for example, assays such as those described, above, in Section 5.5.

Among the peptides which may be tested are soluble peptides comprising DP107 and/or DP178 domains, and peptides comprising DP107 and/or DP178 domains having one or more mutations within one or both of the domains, such as the M41-P peptide described, below, in the Example presented in Section 8, which contains a isoleucine to proline mutation within the DP178 sequence.

In one embodiment of such screening methods is a method for identifying a compound to be tested for antiviral ability comprising:

PØ (a) exposing at least one compound to a peptide comprising a DP107 peptide for a time sufficient to allow binding of the compound to the DP107 peptide;

PØ (b) removing non-bound compounds; and

PØ (c) determining the presence of the compound bound to the DP107 peptide, thereby identifying an agent to be tested for antiviral ability.

In a second embodiment of such screening methods is a method for identifying a compound to be tested for antiviral ability comprising:

PØ (a) exposing at least one compound to a peptide comprising a DP178 peptide for a time sufficient to allow binding of the compound to the DP178 peptide;

PØ (b) removing non-bound compounds; and

PØ (c) determining the presence of the compound bound to the DP178 peptide, thereby identifying an agent to be tested for antiviral ability.

5 P One method utilizing these types of approaches that may be pursued in the isolation of such DP107-binding or DP178-binding compounds is an assay which would include the attachment of either the DP107 or the DP178 peptide to a solid matrix, such as, for example, agarose or plastic beads, microtiter plate
10 wells, petri dishes, or membranes composed of, for example, nylon or nitrocellulose. In such an assay system, either the DP107 or DP178 protein may be anchored onto a solid surface, and the compound, or test substance, which is not anchored, is labeled,
15 either directly or indirectly. In practice, microtiter plates are conveniently utilized. The anchored component may be immobilized by non-covalent or covalent attachments. Non-covalent attachment may be accomplished simply by coating the solid surface
20 with a solution of the protein and drying.

Alternatively, an immobilized antibody, preferably a monoclonal antibody, specific for the protein may be used to anchor the protein to the solid surface. The surfaces may be prepared in advance and
25 stored.

In order to conduct the assay, the labeled compound is added to the coated surface containing the anchored DP107 or DP178 peptide. After the reaction is complete, unreacted components are removed (e.g.,
30 by washing) under conditions such that any complexes formed will remain immobilized on the solid surface. The detection of complexes anchored on the solid surface can be accomplished in a number of ways. Where the compound is pre-labeled, the detection of
35 label immobilized on the surface indicates that

complexes were formed. Where the labeled component is not pre-labeled, an indirect label can be used to detect complexes anchored on the surface; e.g., using a labeled antibody specific for the compound (the antibody, in turn, may be directly labeled or
5 indirectly labeled with a labeled anti-Ig antibody).

Alternatively, such an assay can be conducted in a liquid phase, the reaction products separated from unreacted components, and complexes detected; e.g.,
10 using an immobilized antibody specific for DP107 or DP178, whichever is appropriate for the given assay, or an antibody specific for the compound, i.e., the test substance, in order to anchor any complexes formed in solution, and a labeled antibody specific for the other member of the complex to detect anchored
15 complexes.

By utilizing procedures such as this, large numbers of types of molecules may be simultaneously screened for DP107 or DP178-binding capability, and thus potential antiviral activity.

20 Further, compounds may be screened for an ability to inhibit the formation of or, alternatively, disrupt DP107/DP178 complexes. Such compounds may then be tested for antifusogenic, antiviral or intercellular modulatory capability. For ease of description, DP107
25 and DP178 will be referred to as "binding partners." Compounds that disrupt such interactions may exhibit antiviral activity. Such compounds may include, but are not limited to molecules such as antibodies, peptides, and the like described above.

30 The basic principle of the assay systems used to identify compounds that interfere with the interaction between the DP107 and DP178 peptides involves preparing a reaction mixture containing peptides under conditions and for a time sufficient to allow the two
35 peptides to interact and bind, thus forming a complex.

In order to test a compound for disruptive activity, the reaction is conducted in the presence and absence of the test compound, i.e., the test compound may be initially included in the reaction mixture, or added at a time subsequent to the addition of one of the
5 binding partners; controls are incubated without the test compound or with a placebo. The formation of any complexes between the binding partners is then detected. The formation of a complex in the control reaction, but not in the reaction mixture containing
10 the test compound indicates that the compound interferes with the interaction of the DP107 and DP178 peptides.

The assay for compounds that interfere with the interaction of the binding partners can be conducted
15 in a heterogeneous or homogeneous format. Heterogeneous assays involve anchoring one of the binding partners onto a solid phase and detecting complexes anchored on the solid phase at the end of the reaction. In homogeneous assays, the entire
20 reaction is carried out in a liquid phase. In either approach, the order of addition of reactants can be varied to obtain different information about the compounds being tested. For example, test compounds that interfere with the interaction between the
25 binding partners, e.g., by competition, can be identified by conducting the reaction in the presence of the test substance; i.e., by adding the test substance to the reaction mixture prior to or simultaneously with the binding partners. On the
30 other hand, test compounds that disrupt preformed complexes, e.g. compounds with higher binding constants that displace one of the binding partners from the complex, can be tested by adding the test compound to the reaction mixture after complexes have
35

been formed. The various formats are described briefly below.

In a heterogeneous assay system, one binding partner, e.g., either the DP107 or DP178 peptide, is anchored onto a solid surface, and its binding
5 partner, which is not anchored, is labeled, either directly or indirectly. In practice, microtiter plates are conveniently utilized. The anchored species may be immobilized by non-covalent or covalent attachments. Non-covalent attachment may be
10 accomplished simply by coating the solid surface with a solution of the protein and drying. Alternatively, an immobilized antibody specific for the protein may be used to anchor the protein to the solid surface. The surfaces may be prepared in advance and stored.

15 In order to conduct the assay, the binding partner of the immobilized species is added to the coated surface with or without the test compound. After the reaction is complete, unreacted components are removed (e.g., by washing) and any complexes
20 formed will remain immobilized on the solid surface. The detection of complexes anchored on the solid surface can be accomplished in a number of ways. Where the binding partner was pre-labeled, the detection of label immobilized on the surface
25 indicates that complexes were formed. Where the binding partner is not pre-labeled, an indirect label can be used to detect complexes anchored on the surface; e.g., using a labeled antibody specific for the binding partner (the antibody, in turn, may be
30 directly labeled or indirectly labeled with a labeled anti-Ig antibody). Depending upon the order of addition of reaction components, test compounds which inhibit complex formation or which disrupt preformed complexes can be detected.

35

Alternatively, the reaction can be conducted in a liquid phase in the presence or absence of the test compound, the reaction products separated from unreacted components, and complexes detected; e.g., using an immobilized antibody specific for one binding partner to anchor any complexes formed in solution, and a labeled antibody specific for the other binding partner to detect anchored complexes. Again, depending upon the order of addition of reactants to the liquid phase, test compounds which inhibit complex or which disrupt preformed complexes can be identified.

In an alternate embodiment of the invention, a homogeneous assay can be used. In this approach, a preformed complex of the DP107 and DP178 peptides is prepared in which one of the binding partners is labeled, but the signal generated by the label is quenched due to complex formation (see, e.g., U.S. Patent No. 4,109,496 by Rubenstein which utilizes this approach for immunoassays). The addition of a test substance that competes with and displaces one of the binding partners from the preformed complex will result in the generation of a signal above background. In this way, test substances which disrupt DP-107/DP-178 protein-protein interaction can be identified.

In an alternative screening assay, test compounds may be assayed for their ability to disrupt a DP178/DP107 interaction, as measured immunometrically using an antibody specifically reactive to a DP107/DP178 complex (i.e., an antibody that recognizes neither DP107 nor DP178 individually). Such an assay acts as a competition assay, and is based on techniques well known to those of skill in the art.

The above competition assay may be described, by way of example, and not by way of limitation, by using the DP178 and M41Δ178 peptides and by assaying test

compounds for the disruption of the complexes formed by these two peptides by immunometrically visualizing DP178/M41Δ178 complexes via the human recombinant Fab, Fab-d, as described, below, in the Example presented in Section 8. M41Δ178 is a maltose binding fusion
5 protein containing a gp41 region having its DP178 domain deleted, and is described, below, in the Example presented in Section 8.

Utilizing such an assay, M41Δ178 may be immobilized onto solid supports such as microtiter
10 wells. A series of dilutions of a test compound may then be added to each M41Δ178-containing well in the presence of a constant concentration of DP-178 peptide. After incubation, at, for example, room temperature for one hour, unbound DP-178 and test
15 compound are removed from the wells and wells are then incubated with the DP178/M41Δ178-specific Fab-d antibody. After incubation and washing, unbound Fab-d is removed from the plates and bound Fab-d is quantitated. A no-inhibitor control should also be
20 conducted. Test compounds showing an ability to disrupt DP178/M41Δ178 complex formation are identified by their concentration-dependent decrease in the level of Fab-d binding.

A variation of such an assay may be utilized to
25 perform a rapid, high-throughput binding assay which is capable of directly measuring DP178 binding to M41Δ178 for the determination of binding constants of the ligand or inhibitory constants for competitors of DP178 binding.

Such an assay takes advantage of accepted
30 radioligand and receptor binding principles. (See, for example, Yamamura, H.I. et al., 1985, "Neurotransmitter Receptor Binding", 2nd ed., Raven Press, NY.) As above, M41Δ178 is immobilized onto a
35 solid support such as a microtiter well. DP178

binding to M41Δ178 is then quantitated by measuring the fraction of DP178 that is bound as ¹²⁵I-DP178 and calculating the total amount bound using a value for specific activity (dpm/μg peptide) determined for each labeled DP178 preparation. Specific binding to
5 M41Δ178 is defined as the difference of the binding of the labeled DP178 preparation in the microtiter wells (totals) and the binding in identical wells containing, in addition, excess unlabeled DP178 (nonspecifics).
10

C L V / C 5.5 PHARMACEUTICAL FORMULATIONS, DOSAGES AND MODES OF ADMINISTRATION

The peptides of the invention may be administered using techniques well known to those in the art.
15 Preferably, agents are formulated and administered systemically. Techniques for formulation and administration may be found in "Remington's Pharmaceutical Sciences", 18th ed., 1990, Mack Publishing Co., Easton, PA. Suitable routes may
20 include oral, rectal, transmucosal, or intestinal administration; parenteral delivery, including intramuscular, subcutaneous, intramedullary injections, as well as, intrathecal, direct intraventricular, intravenous, intraperitoneal,
25 intranasal, or intraocular injections, just to name a few. For injection, the agents of the invention may be formulated in aqueous solutions, preferably in physiologically compatible buffers such as Hanks' solution, Ringer's solution, or physiological saline
30 buffer. For such transmucosal administration, penetrants appropriate to the barrier to be permeated are used in the formulation. Such penetrants are generally known in the art.

In instances wherein intracellular administration
35 of the peptides of the invention or other inhibitory

agents is preferred, techniques well known to those of ordinary skill in the art may be utilized. For example, such agents may be encapsulated into liposomes, then administered as described above. Liposomes are spherical lipid bilayers with aqueous interiors. All molecules present in an aqueous solution at the time of liposome formation are incorporated into the aqueous interior. The liposomal contents are both protected from the external microenvironment and, because liposomes fuse with cell membranes, are effectively delivered into the cell cytoplasm. Additionally, due to their hydrophobicity, when small molecules are to be administered, direct intracellular administration may be achieved.

Nucleotide sequences encoding the peptides of the invention which are to be intracellularly administered may be expressed in cells of interest, using techniques well known to those of skill in the art. For example, expression vectors derived from viruses such as retroviruses, vaccinia viruses, adeno-associated viruses, herpes viruses, or bovine papilloma viruses, may be used for delivery and expression of such nucleotide sequences into the targeted cell population. Methods for the construction of such vectors and expression constructs are well known. See, for example, Sambrook et al., 1989, Molecular Cloning, A Laboratory Manual, Cold Spring Harbor Press, Cold Spring Harbor NY, and Ausubel et al., 1989, Current Protocols in Molecular Biology, Greene Publishing Associates and Wiley Interscience, NY.

With respect to HIV, peptides of the invention, particularly DP107 and DP178, may be used as therapeutics in the treatment of AIDS. In addition, the peptides may be used as prophylactic measures in previously uninfected individuals after acute exposure

to an HIV virus. Examples of such prophylactic use of the peptides may include, but are not limited to, prevention of virus transmission from mother to infant and other settings where the likelihood of HIV transmission exists, such as, for example, accidents
5 in health care settings wherein workers are exposed to HIV-containing blood products. The successful use of such treatments do not rely upon the generation of a host immune response directed against such peptides.

Effective dosages of the peptides of the
10 invention to be administered may be determined through procedures well known to those in the art which address such parameters as biological half-life, bioavailability, and toxicity. Given the data presented below in Section 6, DP178, for example, may
15 prove efficacious in vivo at doses required to achieve circulating levels of about 1 to about 10 ng per ml of peptide.

A therapeutically effective dose refers to that amount of the compound sufficient to result in
20 amelioration of symptoms or a prolongation of survival in a patient. Toxicity and therapeutic efficacy of such compounds can be determined by standard pharmaceutical procedures in cell cultures or experimental animals, e.g., for determining the LD₅₀
25 (the dose lethal to 50% of the population) and the ED₅₀ (the dose therapeutically effective in 50% of the population). The dose ratio between toxic and therapeutic effects is the therapeutic index and it can be expressed as the ratio LD₅₀/ED₅₀. Compounds
30 which exhibit large therapeutic indices are preferred. The data obtained from these cell culture assays and animal studies can be used in formulating a range of dosage for use in humans. The dosage of such compounds lies preferably within a range of
35 circulating concentrations that include the ED₅₀ with

little or no toxicity. The dosage may vary within this range depending upon the dosage form employed and the route of administration utilized. For any compound used in the method of the invention, the therapeutically effective dose can be estimated
5 initially from cell culture assays. A dose may be formulated in animal models to achieve a circulating plasma concentration range that includes the IC_{50} (e.g., the concentration of the test compound which achieves a half-maximal inhibition of the fusogenic
10 event, such as a half-maximal inhibition of viral infection relative to the amount of the event in the absence of the test compound) as determined in cell culture. Such information can be used to more accurately determine useful doses in humans. Levels
15 in plasma may be measured, for example, by high performance liquid chromatography (HPLC).

The peptides of the invention may, further, serve the role of a prophylactic vaccine, wherein the host raises antibodies against the peptides of the
20 invention, which then serve to neutralize HIV viruses by, for example, inhibiting further HIV infection.

Administration of the peptides of the invention as a prophylactic vaccine, therefore, would comprise administering to a host a concentration of peptides
25 effective in raising an immune response which is sufficient to neutralize HIV, by, for example, inhibiting HIV ability to infect cells. The exact concentration will depend upon the specific peptide to be administered, but may be determined by using
30 standard techniques for assaying the development of an immune response which are well known to those of ordinary skill in the art. The peptides to be used as vaccines are usually administered intramuscularly.

The peptides may be formulated with a suitable
35 adjuvant in order to enhance the immunological

response. Such adjuvants may include, but are not limited to mineral gels such as aluminum hydroxide; surface active substances such as lysolecithin, pluronic polyols, polyanions; other peptides; oil emulsions; and potentially useful human adjuvants such as BCG and Corynebacterium parvum. Many methods may be used to introduce the vaccine formulations described here. These methods include but are not limited to oral, intradermal, intramuscular, intraperitoneal, intravenous, subcutaneous, and intranasal routes.

Alternatively, an effective concentration of polyclonal or monoclonal antibodies raised against the peptides of the invention may be administered to a host so that no uninfected cells become infected by HIV. The exact concentration of such antibodies will vary according to each specific antibody preparation, but may be determined using standard techniques well known to those of ordinary skill in the art. Administration of the antibodies may be accomplished using a variety of techniques, including, but not limited to those described in this section.

For all such treatments described above, the exact formulation, route of administration and dosage can be chosen by the individual physician in view of the patient's condition. (See e.g. Fingl et al., 1975, in "The Pharmacological Basis of Therapeutics", Ch. 1 p1).

It should be noted that the attending physician would know how to and when to terminate, interrupt, or adjust administration due to toxicity, or to organ dysfunctions. Conversely, the attending physician would also know to adjust treatment to higher levels if the clinical response were not adequate (precluding toxicity). The magnitude of an administered dose in the management of the oncogenic disorder of interest

will vary with the severity of the condition to be treated and the route of administration. The dose and perhaps dose frequency, will also vary according to the age, body weight, and response of the individual patient. A program comparable to that discussed above
5 may be used in veterinary medicine.

Use of pharmaceutically acceptable carriers to formulate the compounds herein disclosed for the practice of the invention into dosages suitable for systemic administration is within the scope of the
10 invention. With proper choice of carrier and suitable manufacturing practice, the compositions of the present invention, in particular, those formulated as solutions, may be administered parenterally, such as by intravenous injection. The compounds can be
15 formulated readily using pharmaceutically acceptable carriers well known in the art into dosages suitable for oral administration. Such carriers enable the compounds of the invention to be formulated as tablets, pills, capsules, liquids, gels, syrups,
20 slurries, suspensions and the like, for oral ingestion by a patient to be treated.

Pharmaceutical compositions suitable for use in the present invention include compositions wherein the active ingredients are contained in an effective
25 amount to achieve its intended purpose. Determination of the effective amounts is well within the capability of those skilled in the art, especially in light of the detailed disclosure provided herein.

In addition to the active ingredients, these
30 pharmaceutical compositions may contain suitable pharmaceutically acceptable carriers comprising excipients and auxiliaries which facilitate processing of the active compounds into preparations which can be used pharmaceutically. The preparations formulated
35

for oral administration may be in the form of tablets, dragees, capsules, or solutions.

The pharmaceutical compositions of the present invention may be manufactured in a manner that is itself known, e.g., by means of conventional mixing, dissolving, granulating, dragee-making, levigating, emulsifying, encapsulating, entrapping or lyophilizing processes.

Pharmaceutical formulations for parenteral administration include aqueous solutions of the active compounds in water-soluble form. Additionally, suspensions of the active compounds may be prepared as appropriate oily injection suspensions. Suitable lipophilic solvents or vehicles include fatty oils such as sesame oil, or synthetic fatty acid esters, such as ethyl oleate or triglycerides, or liposomes. Aqueous injection suspensions may contain substances which increase the viscosity of the suspension, such as sodium carboxymethyl cellulose, sorbitol, or dextran. Optionally, the suspension may also contain suitable stabilizers or agents which increase the solubility of the compounds to allow for the preparation of highly concentrated solutions.

Pharmaceutical preparations for oral use can be obtained by combining the active compounds with solid excipient, optionally grinding a resulting mixture, and processing the mixture of granules, after adding suitable auxiliaries, if desired, to obtain tablets or dragee cores. Suitable excipients are, in particular, fillers such as sugars, including lactose, sucrose, mannitol, or sorbitol; cellulose preparations such as, for example, maize starch, wheat starch, rice starch, potato starch, gelatin, gum tragacanth, methyl cellulose, hydroxypropylmethyl-cellulose, sodium carboxymethylcellulose, and/or polyvinylpyrrolidone (PVP). If desired, disintegrating agents may be

added, such as the cross-linked polyvinyl pyrrolidone, agar, or alginic acid or a salt thereof such as sodium alginate.

Dragee cores are provided with suitable coatings. For this purpose, concentrated sugar solutions may be
5 used, which may optionally contain gum arabic, talc, polyvinyl pyrrolidone, carbopol gel, polyethylene glycol, and/or titanium dioxide, lacquer solutions, and suitable organic solvents or solvent mixtures. Dyestuffs or pigments may be added to the tablets or
10 dragee coatings for identification or to characterize different combinations of active compound doses.

Pharmaceutical preparations which can be used orally include push-fit capsules made of gelatin, as well as soft, sealed capsules made of gelatin and a
15 plasticizer, such as glycerol or sorbitol. The push-fit capsules can contain the active ingredients in admixture with filler such as lactose, binders such as starches, and/or lubricants such as talc or magnesium stearate and, optionally, stabilizers. In
20 soft capsules, the active compounds may be dissolved or suspended in suitable liquids, such as fatty oils, liquid paraffin, or liquid polyethylene glycols. In addition, stabilizers may be added.

²⁵ CL 01/2 6. EXAMPLE: DP178 (SEQ ID:1) IS A POTENT INHIBITOR OF HIV-1 INFECTION

In this example, DP178 (SEQ ID:1) is shown to be a potent inhibitor of HIV-1 mediated CD-4⁺ cell-cell fusion and infection by cell free virus. In the
30 fusion assay, this peptide completely blocks virus induced syncytia formation at concentrations of from 1-10 ng/ml. In the infectivity assay the inhibitory concentration is somewhat higher, blocking infection at 90ng/ml. It is further shown that DP178 (SEQ ID:1)
35 shows that the antiviral activity of DP178 (SEQ ID:1)

is highly specific for HIV-1. Additionally, a synthetic peptide, DP-185 (SEQ ID:3), representing a HIV-1-derived DP178 homolog is also found to block HIV-1-mediated syncytia formation.

5 CL V/L 6.1. MATERIALS AND METHODS

CL V/L 6.1.1. PEPTIDE SYNTHESIS

Peptides were synthesized using Fast Moc chemistry on an Applied Biosystems Model 431A peptide synthesizer. Generally, unless otherwise noted, the peptides contained amidated carboxy termini and acetylated amino termini. Amidated peptides were prepared using Rink resin (Advanced Chemtech) while peptides containing free carboxy termini were synthesized on Wang (p-alkoxy-benzyl-alcohol) resin (Bachem). First residues were double coupled to the appropriate resin and subsequent residues were single coupled. Each coupling step was followed by acetic anhydride capping. Peptides were cleaved from the resin by treatment with trifluoroacetic acid (TFA) (10ml), H₂O (0.5ml), thioanisole (0.5ml), ethanedithiol (0.25ml), and crystalline phenol (0.75g). Purification was carried out by reverse phase HPLC. Approximately 50mg samples of crude peptide were chromatographed on a Waters Delta Pak C18 column (19mm x 30cm, 15μ spherical) with a linear gradient; H₂O/acetonitrile 0.1% TFA. Lyophilized peptides were stored desiccated and peptide solutions were made in water at about 1mg/ml. Electrospray mass spectrometry yielded the following results: DP178 (SEQ ID:1):4491.87 (calculated 4491.94); DP-180 (SEQ ID:2):4491.45 (calculated 4491.94); DP-185 (SEQ ID:3):not done (calculated 4546.97).

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CL V/L.

6.1.2. VIRUS

The HIV-1_{LAI} virus was obtained from R. Gallo (Popovic, M. et al., 1984, Science 224:497-508) and propagated in CEM cells cultured in RPMI 1640
5 containing 10% fetal calf serum. Supernatant from the infected CEM cells was passed through a 0.2 μ m filter and the infectious titer estimated in a microinfectivity assay using the AA5 cell line to support virus replication. For this purpose, 25 μ l of
10 serial diluted virus was added to 75 μ l AA5 cells at a concentration of 2×10^5 /ml in a 96-well microtitre plate. Each virus dilution was tested in triplicate. Cells were cultured for eight days by addition of
15 fresh medium every other day. On day 8 post infection, supernatant samples were tested for virus replication as evidenced by reverse transcriptase activity released to the supernatant. The TCID₅₀ was calculated according to the Reed and Muench formula (Reed, L.J. et al., 1938, Am. J. Hyg. 27:493-497).
20 The titer of the HIV-1_{LAI} and HIV-1_{MN} stocks used for these studies, as measured on the AA5 cell line, was approximately 1.4×10^6 and 3.8×10^4 TCID₅₀/ml, respectively.

CL V/L

6.1.3. CELL FUSION ASSAY

25 Approximately 7×10^4 Molt cells were incubated with 1×10^4 CEM cells chronically infected with the HIV-1_{LAI} virus in 96-well plates (one-half area cluster plates; Costar, Cambridge, MA) in a final volume of
30 100 μ l culture medium as previously described (Matthews, T.J. et al., 1987, Proc. Natl. Acad. Sci. USA 84: 5424-5428). Peptide inhibitors were added in a volume of 10 μ l and the cell mixtures were incubated for 24 hr. at 37°C. At that time, multinucleated
35 giant cells were estimated by microscopic examination

at a 40x magnification which allowed visualization of the entire well in a single field.

CL U/L 6.1.4. CELL FREE VIRUS INFECTION ASSAY

5 Synthetic peptides were incubated at 37°C with
either 247 TCID₅₀ (for experiment depicted in FIG. 2),
or 62 TCID₅₀ (for experiment depicted in FIG.3) units
of HIV-1_{LAI} virus or 25 TCID₅₀ units of HIV-2_{NIH} and CEM
CD4⁺ cells at peptide concentrations of 0, 0.04, 0.4,
10 4.0, and 40µg/ml for 7 days. The resulting reverse
transcriptase (RT) activity in counts per minute was
determined using the assay described, below, in
Section 6.1.5. See, Reed, L.J. et al., 1938, Am. J.
Hyg. 27: 493-497 for an explanation of TCID₅₀
calculations.

15 CL U/L 6.1.5. REVERSE TRANSCRIPTASE ASSAY

The micro-reverse transcriptase (RT) assay was
adapted from Goff et al. (Goff, S. et al., 1981, J.
Virol. 38:239-248) and Willey et al. (Willey, R. et
20 al., 1988, J. Virol. 62:139-147). Supernatants from
virus/cell cultures are adjusted to 1% Triton-X100. A
10µl sample of supernatant was added to 50µl of RT
cocktail in a 96-well U-bottom microtitre plate and
the samples incubated at 37°C for 90 min. The RT
25 cocktail contained 75mM KCl, 2mM dithiothreitol, 5mM
MgCl₂, 5µg/ml poly A (Pharmacia, cat. No. 27-4110-01),
0.25 units/ml oligo dT (Pharmacia, cat. No. 27-7858-
01), 0.05% NP40, 50mM Tris-HCl, pH 7.8, 0.5µM non-
radioactive dTTP, and 10µCi/ml ³²P-dTTP (Amersham, cat.
30 No. PB.10167).

After the incubation period, 40µl of reaction
mixture was applied to a Schleicher and Schuell (S+S)
NA45 membrane (or DE81 paper) saturated in 2 x SSC
buffer (0.3M NaCl and 0.003M sodium citrate) held in a
35 S+S Minifold over one sheet of GB003 (S+S) filter

paper, with partial vacuum applied. Each well of the minifold was washed four times with 200 μ l 2xSSC, under full vacuum. The membrane was removed from the minifold and washed 2 more times in a pyrex dish with an excess of 2xSSC. Finally, the membrane was drained
5 on absorbent paper, placed on Whatman #3 paper, covered with Saran wrap, and exposed to film overnight at -70°C.

CL/UC

6.2. RESULTS

10 CL/UC 6.2.1. PEPTIDE INHIBITION OF INFECTED CELL-INDUCED SYNCYTIA FORMATION

The initial screen for antiviral activity assayed peptides' ability to block syncytium formation induced by overnight co-cultivation of uninfected Molt4 cells
15 with chronically HIV-1 infected CEM cells. The results of several such experiments are presented herein. In the first of these experiments, serial DP178 (SEQ ID:1) peptide concentrations between 10 μ g/ml and 12.5ng/ml were tested for blockade of the
20 cell fusion process. For these experiments, CEM cells chronically infected with either HIV-1_{LAI}, HIV-1_{MN}, HIV-1_{RF}, or HIV-1_{SF2} virus were cocultivated overnight with uninfected Molt 4 cells. The results (FIG. 4) show that DP178 (SEQ ID:1) afforded complete protection
25 against each of the HIV-1 isolates down to the lowest concentration of DP178 (SEQ ID:1) used. For HIV_{LAI} inhibition, the lowest concentration tested was 12.5ng/ml; for all other HIV-1 viruses, the lowest concentration of DP178 (SEQ ID:1) used in this study
30 was 100ng/ml. A second peptide, DP-180 (SEQ ID:2), containing the same amino acid residues as DP178 (SEQ ID:1) but arranged in a random order exhibited no evidence of anti-fusogenic activity even at the high concentration of 40 μ g/ml (FIG. 4). These observations
35 indicate that the inhibitory effect of DP178 (SEQ

ID:1) is primary sequence-specific and not related to non-specific peptide/protein interactions. The actual endpoint (i.e., the lowest effective inhibitory concentration) of DP178 inhibitory action is within the range of 1-10 ng/ml.

5 The next series of experiments involved the preparation and testing of a DP178 (SEQ ID:1) homolog for its ability to inhibit HIV-1-induced syncytia formation. As shown in FIG. 1, the sequence of DP-185 (SEQ ID:3) is slightly different from DP178 (SEQ ID:1) in that its primary sequence is taken from the HIV-1_{SP2} isolate and contains several amino acid differences relative to DP178 (SEQ ID:1) near the N terminus. As shown in FIG. 4, DP-185 (SEQ ID:3), exhibits inhibitory activity even at 312.5ng/ml, the lowest concentration tested.

15 The next series of experiments involved a comparison of DP178 (SEQ ID:1) HIV-1 and HIV-2 inhibitory activity. As shown in FIG. 5, DP178 (SEQ ID:1) blocked HIV-1-mediated syncytia formation at peptide concentrations below 1ng/ml. DP178 (SEQ ID:1) failed, however, to block HIV-2 mediated syncytia formation at concentrations as high as 10µg/ml. This striking 4 log selectivity of DP178 (SEQ ID:1) as an inhibitor of HIV-1-mediated cell fusion demonstrates an unexpected HIV-1 specificity in the action of DP178 (SEQ ID:1). DP178 (SEQ ID:1) inhibition of HIV-1-mediated cell fusion, but the peptide's inability to inhibit HIV-2 medicated cell fusion in the same cell type at the concentrations tested provides further evidence for the high degree of selectivity associated with the antiviral action of DP178 (SEQ ID:1).

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CL V/L. 6.2.2. PEPTIDE INHIBITION OF INFECTION BY
CELL-FREE VIRUS

DP178 (SEQ ID:1) was next tested for its ability to block CD-4⁺ CEM cell infection by cell free HIV-1 virus. The results, shown in FIG. 2, are from an experiment in which DP178 (SEQ ID:1) was assayed for its ability to block infection of CEM cells by an HIV-1_{LAI} isolate. Included in the experiment were three control peptides, DP-116 (SEQ ID:9), DP-125 (SEQ ID:8), and DP-118 (SEQ ID:10). DP-116 (SEQ ID:9) represents a peptide previously shown to be inactive using this assay, and DP-125 (SEQ ID:8; Wild, C. et al., 1992, Proc. Natl. Acad. Sci. USA 89:10,537) and DP-118 (SEQ ID:10) are peptides which have previously been shown to be active in this assay. Each concentration (0, 0.04, 0.4, 4, and 40 µg/ml) of peptide was incubated with 247 TCID₅₀ units of HIV-1_{LAI} virus and CEM cells. After 7 days of culture, cell-free supernatant was tested for the presence of RT activity as a measure of successful infection. The results, shown in FIG. 2, demonstrate that DP178 (SEQ ID:1) inhibited the de novo infection process mediated by the HIV-1 viral isolate at concentrations as low as 90ng/ml (IC₅₀=90ng/ml). In contrast, the two positive control peptides, DP-125 (SEQ ID:8) and DP-118 (SEQ ID:10), had over 60-fold higher IC₅₀ concentrations of approximately 5 µg/ml.

In a separate experiment, the HIV-1 and HIV-2 inhibitory action of DP178 (SEQ ID:1) was tested with CEM cells and either HIV-1_{LAI} or HIV-2_{NIHZ}. 62 TCID₅₀ HIV-1_{LAI} or 25 GCID₅₀ HIV-2_{NIHZ} were used in these experiments, and were incubated for 7 days. As may be seen in FIG. 3, DP178 (SEQ ID:1) inhibited HIV-1 infection with an IC₅₀ of about 31ng/ml. In contrast, DP178 (SEQ ID:1) exhibited a much higher IC₅₀ for HIV-2_{NIHZ}, thus making DP178 (SEQ ID:1) two logs more potent

as a HIV-1 inhibitor than a HIV-2 inhibitor. This finding is consistent with the results of the fusion inhibition assays described, above, in Section 6.2.1, and further supports a significant level of selectivity (i.e., for HIV-1 over HIV-2).

5

CL V/L 7. EXAMPLE: THE HIV-1 INHIBITOR,
DP178 (SEQ ID:1) IS NON-CYTOTOXIC

In this Example, the 36 amino acid synthetic peptide inhibitor DP178 (SEQ ID:1) is shown to be non-
10 cytotoxic to cells in culture, even at the highest peptide concentrations (40µg/ml) tested.

CL V/L 7.1. MATERIALS AND METHODS

Cell proliferation and toxicity assay:

15 Approximately 3.8×10^5 CEM cells for each peptide concentration were incubated for 3 days at 37°C in T25 flasks. Peptides tested were DP178 (SEQ ID:1) and DP-116 (SEQ ID:9), as described in FIG. 1. Peptides were synthesized as described, above, in Section 6.1. The
20 concentrations of each peptide used were 0, 2.5, 10, and 40µg/ml. Cell counts were taken at incubation times of 0, 24, 48, and 72 hours.

CL

7.2. RESULTS

25 Whether the potent HIV-1 inhibitor DP178 (SEQ ID:1) exhibited any cytotoxic effects was assessed by assaying the peptide's effects on the proliferation and viability of cells in culture. CEM cells were incubated in the presence of varying concentrations of
30 DP178 (SEQ ID:1), and DP-116 (SEQ ID:9), a peptide previously shown to be ineffective as a HIV inhibitor (Wild, C. et al., 1992, Proc. Natl. Acad. Sci. USA 89:10,537-10,541). Additionally, cells were incubated in the absence of either peptide.

35

The results of the cytotoxicity study demonstrate that DP178 (SEQ ID:1) exhibits no cytotoxic effects on cells in culture. As can be seen, below, in Table XXIV, even the proliferation and viability characteristics of cells cultured for 3 days in the presence of the highest concentration of DP178 (SEQ ID:1) tested (40µg/ml) do not significantly differ from the DP-116 (SEQ ID:9) or the no-peptide controls. The cell proliferation data is also represented in graphic form in FIG. 6. As was demonstrated in the Working Example presented above in Section 6, DP178 (SEQ ID:1) completely inhibits HIV-1 mediated syncytia formation at peptide concentrations between 1 and 10ng/ml, and completely inhibits cell-free viral infection at concentrations of at least 90ng/ml. Thus, this study demonstrates that even at peptide concentrations greater than 3 log higher than the HIV inhibitory dose, DP178 (SEQ ID:1) exhibits no cytotoxic effects.

TABLE XXIV

T₃₆₆₀

5	<u>Peptide</u>	<u>Peptide Concentration μg/ml</u>	<u>% Viability at time (hours)</u>			
			<u>0</u>	<u>24</u>	<u>48</u>	<u>72</u>
	DP178 (SEQ ID:1)	40	98	97	95	97
10		10	98	97	98	98
		2.5	98	93	96	96
	DP116 (SEQ ID:9)	40	98	95	98	97
15		10	98	95	93	98
		2.5	98	96	98	99
	No Peptide	0	98	97	99	98
20	<hr/>					

CLV/L 8. EXAMPLE: THE INTERACTION OF DP178 AND DP107

P Soluble recombinant forms of gp41 used in the
 25 example described below provide evidence that the
 DP178 peptide associates with a distal site on gp41
 whose interactive structure is influenced by the DP107
 leucine zipper motif. A single mutation disrupting
 the coiled-coil structure of the leucine zipper domain
 30 transformed the soluble recombinant gp41 protein from
 an inactive to an active inhibitor of HIV-1 fusion.
 This transformation may result from liberation of the
 potent DP178 domain from a molecular clasp with the
 leucine zipper, DP107, determinant. The results also
 35 indicate that the anti-HIV activity of various gp41
 derivatives (peptides and recombinant proteins) may be

due to their ability to form complexes with viral gp41 and interfere with its fusogenic process.

CLV/c

8.1. MATERIALS AND METHODS

5 CLV/L

8.1.1. CONSTRUCTION OF FUSION PROTEINS AND GP41 MUTANTS

Construction of fusion proteins and mutants shown in FIG. 7 was accomplished as follows: the DNA sequence corresponding to the extracellular domain of gp41 (540-686) was cloned into the Xmn I site of the expression vector pMal-p2 (New England Biolab) to give M41. The gp41 sequence was amplified from pgtat (Malim et al., 1988, Nature 355: 181-183) by using polymerase chain reaction (PCR) with upstream primer 5'-ATGACGCTGACGGTACAGGCC-3' (primer A) and downstream primer 5'-TGACTAAGCTTAATACCACAGCCAATTTGTTAT-3' (primer B). M41-P was constructed by using the T7-Gen in vitro mutagenesis kit from United States Biochemicals (USB) following the supplier's instructions. The mutagenic primer (5'-GGAGCTGCTTGGGGCCCCAGAC-3') introduces an Ile to Pro mutation in M41 at position 578. M41Δ107, from which the DP-107 region has been deleted, was made using a deletion mutagenic primer 5'-CCAAATCCCCAGGAGCTGCTCGAGCTGCACTATACCAGAC-3' following the USB T7-Gen mutagenesis protocol. M41Δ178, from which the DP-178 region has been deleted, was made by cloning the DNA fragment corresponding to gp41 amino acids 540-642 into the Xmn I site of pMal-p2. Primer A and 5'-ATAGCTTCTAGATTAATTGTTAATTTCTCTGTCCC-3' were used in the PCR with the template pgtat to generate the inserted DNA fragments. M41-P was used as the template with primer A and D in PCR to generate M41-PA178. All inserted sequences and mutated residues

were checked by restriction enzyme analysis and confirmed by DNA sequencing.

CL V/L 8.1.2. PURIFICATION AND CHARACTERIZATION OF FUSION PROTEINS

5 The fusion proteins were purified according to the protocol described in the manufacturer's brochure of protein fusion and purification systems from New England Biolabs (NEB). Fusion proteins (10 ng) were analyzed by electrophoresis on 8% SDS polyacrylamide
10 gels. Western blotting analysis was performed as described by Sambrook et al., 1989, Molecular Cloning: A Laboratory Manual, 2d Ed, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, Ch. 18, pp. 64-75. An HIV-1 positive serum diluted 1000-fold,
15 or a human Fab derived from repertoire cloning was used to react with the fusion proteins. The second antibody was HRP-conjugated goat antihuman Fab. An ECL Western blotting detection system (Amersham) was used to detect the bound antibody. A detailed
20 protocol for this detection system was provided by the manufacturer. Rainbow molecular weight markers (Amersham) were used to estimate the size of fusion proteins.

CL V/L 25 8.1.3. CELL FUSION ASSAYS FOR ANTI-HIV ACTIVITY

P Cell fusion assays were performed as previously described (Matthews et al., 1987, Proc. Natl. Acad. Sci. USA 84: 5424-5481). CEM cells (7×10^4) were incubated with HIV-1_{IIIb} chronically infected CEM cells
30 (10^4) in 96-well flat-bottomed half-area plates (Costar) in 100 μ l culture medium. Peptide and fusion proteins at various concentrations in 10 μ l culture medium were incubated with the cell mixtures at 37°C for 24 hours. Multinucleated syncytia were estimated
35 with microscopic examination. Both M41 and M41-P did

not show cytotoxicity at the concentrations tested and shown in FIG. 8.

Inhibition of HIV-1 induced cell-cell fusion activity was carried out in the presence of 10 nM DP178 and various concentrations of M41Δ178 or M41-PA178 as indicated in FIG. 9. There was no observable syncytia in the presence of 10 nM DP178. No peptide or fusion protein was added in the control samples.

10 *CLV/L* 8.1.4. ELISA ANALYSIS OF DP178 BINDING TO THE LEUCINE ZIPPER MOTIF OF GP41

15 *p* The amino acid sequence of DP178 used is: YTSLIHSLIEESQNQQEKNEQELLELDKWASLWNWF. For enzyme linked immunoassay (ELISA), M41Δ178 or M41-PA178 (5 μg/ml) in 0.1M NaHCO₃, pH 8.6, were coated on 96 wells Linbro ELISA plates (Flow Lab, Inc.) overnight. Each well was washed three times with distilled water then blocked with 3% bovine serum albumin (BSA) for 2 hours. After blocking, peptides with 0.5% BSA in TBST (40 mM Tris-HCl pH7.5, 150 mM NaCl, 0.05% Tween 20) were added to the ELISA plates and incubated at room temperature for 1 hour. After washing three times with TBST, Fab-d was added at a concentration of 10 ng/ml with 0.5% BSA in TBST. The plates were washed three times with TBST after incubation at room temperature for 1 hour. Horse radish peroxidase (HRP) conjugated goat antihuman Fab antiserum at a 2000 fold dilution in TBST with 0.5% BSA was added to each well and incubated at room temperature for 45 minutes. The plates were then washed four times with TBST. The peroxidase substrate o-phenylene diamine (2.5 mg/ml) and 0.15% H₂O₂ were added to develop the color. The reaction was stopped with an equal volume of 4.5 N H₂SO₄ after incubation at room temperature for 10 minutes. The optical density of the stopped reaction mixture was measured with a micro plate reader

(Molecular Design) at 490 nm. Results are shown in FIG. 10.

CL V/C

8.2. RESULTS

5 CL V/C 8.2.1. THE EXPRESSION AND CHARACTERIZATION OF THE ECTODOMAIN OF gp41

As a step toward understanding the roles of the two helical regions in gp41 structure and function, the ectodomain of gp41 was expressed as a maltose binding fusion protein (M41) (FIG. 7). The fusogenic
10 peptide sequence at the N-terminal of gp41 was omitted from this recombinant protein and its derivatives to improve solubility. The maltose binding protein facilitated purification of the fusion proteins under relatively mild, non-denaturing conditions. Because
15 the M41 soluble recombinant gp41 was not glycosylated, lacked several regions of the transmembrane protein (*i.e.*, the fusion peptide, the membrane spanning, and the cytoplasmic domains), and was expressed in the absence of gp120, it was not expected to precisely
20 reflect the structure of native gp41 on HIV-1 virions. Nevertheless, purified M41 folded in a manner that preserved certain discontinuous epitopes as evidenced by reactivity with human monoclonal antibodies, 98-6, 126-6, and 50-69, previously shown to bind
25 conformational epitopes on native gp41 expressed in eukaryotic cells (Xu et al., 1991, J. Virol. 65: 4832-4838; Chen, 1994, J. Virol. 68:2002-2010). Thus, at least certain regions of native gp41 defined by these antibodies appear to be reproduced in the recombinant
30 fusion protein M41. Furthermore, M41 reacted with a human recombinant Fab (Fab-d) that recognizes a conformational epitope on gp41 and binds HIV-1 virions as well as HIV-1 infected cells but not uninfected cells as analyzed by FACS. Deletion of either helix
35 motif, *i.e.*, DP107 or DP178, of the M41 fusion protein

eliminated reactivity with Fab-d. These results indicate that both helical regions, separated by 60 amino acids in the primary sequence, are required to maintain the Fab-d epitope.

5

CLV/L

8.2.2. ANTI-HIV ACTIVITY OF THE RECOMBINANT ECTODOMAIN OF GP41

The wild type M41 fusion protein was tested for anti-HIV-1 activity. As explained, supra, synthetic
10 peptides corresponding to the leucine zipper (DP107) and the C-terminal putative helix (DP178) show potent anti-HIV activity. Despite inclusion of both these regions, the recombinant M41 protein did not affect HIV-1 induced membrane fusion at concentrations as
15 high as 50 μ M (Table XXV, below).

TABLE XXV

DISRUPTION OF THE LEUCINE ZIPPER OF
GP41 FREES THE ANTI-HIV MOTIF

20

	<u>DP107</u>	<u>DP178</u>	<u>M41</u>	<u>M41-P</u>	<u>M41-PA178</u>
Cell fusion (IC ₅₀)	1 μ M	1 nM	> 50 μ M	83 nM	> 50 μ M
25 Fab-D binding (K _D)	-	-	3.5x10 ⁻⁹	2.5x10 ⁻⁸	-
HIV infectiv- ity (IC ₅₀)	1 μ M	80 nM	> 16 μ M	66 nM	> 8 μ M

30

1 The affinity constants of Fab-d binding to the fusion proteins were determined using a protocol described by B. Friguet et al., 1985, J. Immunol. Method. 77:305-319.

+ L6

- = No detectable binding of Fab-d to the fusion proteins.

35 + L6

Antiviral Infectivity Assays. 20 μ l of serially diluted virus stock was incubated for 60 minutes at ambient temperature with 20 μ l of the indicated

concentration of purified recombinant fusion protein in RPMI 1640 containing 10% fetal bovine serum and antibiotics in a 96-well microtiter plate. 20 μ l of CEM4 cells at 6×10^5 cells/ml were added to each well, and cultures were incubated at 37°C in a humidified CO₂ incubator. Cells were cultured for 9 days by the addition of fresh medium every 2 to 3 days. On days 5, 7, and 9 postinfection, supernatant samples were assayed for reverse transcriptase (RT) activity, as described below, to monitor viral replication. The 50% tissue culture infectious dose (TCID₅₀) was calculated for each condition according to the formula of Reed & Muench, 1937, Am. J. Hyg. 27:493-497. RT activity was determined by a modification of the published methods of Goff et al., 1981, J. Virol. 38:239-248 and Willey et al., 1988, J. Virol. 62:139-147 as described in Chen et al., 1993, AIDS Res. Human Retroviruses 9:1079-1086.

10

P Surprisingly, a single amino acid substitution, proline in place of isoleucine in the middle of the leucine zipper motif, yielded a fusion protein (M41-P) which did exhibit antiviral activity (Table XXV and Fig. 8). As seen in Table XXV, M41-P blocked syncytia formation by 90% at approximately 85 nM and neutralized HIV-1_{IIIIB} infection by 90% at approximately 70 nM concentrations. The anti-HIV-1 activity of M41-P appeared to be mediated by the C-terminal helical sequence since deletion of that region from M41-P yielded an inactive fusion protein, M41- Δ 178 (Table XXV). This interpretation was reinforced by experiments demonstrating that a truncated fusion protein lacking the DP178 sequence, M41 Δ 178, abrogated the potent anti-fusion activity of the DP178 peptide in a concentration-dependent manner (FIG. 9). The same truncated fusion protein containing the proline mutation disrupting the leucine zipper, M41- Δ 178, was not active in similar competition experiments (FIG. 9). The results indicate that the DP178 peptide associates with a second site on gp41 whose interactive structure is dependent on a wild type leucine zipper sequence. A similar interaction may occur within the wild type fusion protein, M41, and act to form an intramolecular clasp which sequesters

the DP178 region, making it unavailable for anti-viral activity.

A specific association between these two domains is also indicated by other human monoclonal Fab-d studies. For example, Fab-d failed to bind either the
5 DP178 peptide or the fusion protein M41Δ178, but its epitope was reconstituted by simply mixing these two reagents together (FIG. 10). Again, the proline mutation in the leucine zipper domain of the fusion
10 protein, M41-PA178, failed to reconstitute the epitope in similar mixing experiments.

CL 014 9. EXAMPLE: METHOD FOR COMPUTER-ASSISTED
IDENTIFICATION OF DP107-LIKE
AND DP178-LIKE SEQUENCES

15 P A number of known coiled-coil sequences have been well described in the literature and contain heptad repeat positioning for each amino acid. Coiled-coil nomenclature labels each of seven amino acids of a heptad repeat A through G, with amino acids A and D
20 tending to be hydrophobic positions. Amino acids E and G tend to be charged. These four positions (A, D, E, and G) form the amphipathic backbone structure of a monomeric alpha-helix. The backbones of two or more amphipathic helices interact with each other to form
25 di-, tri-, tetrameric, etc., coiled-coil structures. In order to begin to design computer search motifs, a series of well characterized coiled coils were chosen including yeast transcription factor GCN4, Influenza Virus hemagglutinin loop 36, and human proto-oncogenes
30 c-Myc, c-Fos, and c-Jun. For each peptide sequence, a strict homology for the A and D positions, and a list of the amino acids which could be excluded for the B, C, E, F, and G positions (because they are not observed in these positions) was determined. Motifs
35 were tailored to the DP107 and DP178 sequences by

deducing the most likely possibilities for heptad positioning of the amino acids of HIV-1 Bru DP-107, which is known to have coiled-coil structure, and HIV-1 Bru DP178, which is still structurally undefined. The analysis of each of the sequences is contained in FIG. 12. For example, the motif for GCN4 was designed as follows:

1. The only amino acids (using standard single letter amino acid codes) found in the A or D positions of GCN4 were [LMNV].
2. All amino acids were found at B, C, E, F, and G positions except {CFGIMPTW}.
3. The PESEARCH motif would, therefore, be written as follows: PS .

ti $\left[\begin{array}{l} [LMNV]-\{CFGIMPTW\}(2)-[LMNV]-\{CFGIMPTW\}(3)- \\ [LMNV]-\{CFGIMPTW\}(2)-[LMNV]-\{CFGIMPTW\}(3)- \\ [LMNV]-\{CFGIMPTW\}(2)-[LMNV]-\{CFGIMPTW\}(3)- \\ [LMNV]-\{CFGIMPTW\}(2)-[LMNV]-\{CFGIMPTW\}(3)- \end{array} \right] PS$

PS . Translating or reading the motif: "at the first A position either L, M, N, or V must occur; at positions B and C (the next two positions) accept everything except C, F, G, I, M, P, T, or W; at the D position either L, M, N, or V must occur; at positions E, F, and G (the next 3 positions) accept everything except C, F, G, I, M, P, T, or W." This statement is contained four times in a 28-mer motif and five times in a 35-mer motif. The basic motif key then would be: [LMNV]-{CFGIMPTW}. The motif keys for the remaining well described coiled-coil sequences are summarized in FIG. 12.

The motif design for DP107 and DP178 was slightly different than the 28-mer model sequences described above due to the fact that heptad repeat positions are not defined and the peptides are both longer than 28 residues. FIG. 13 illustrates several possible

sequence alignments for both DP107 and DP178 and also includes motif designs based on 28-mer, 35-mer, and full-length peptides. Notice that only slight differences occur in the motifs as the peptides are lengthened. Generally, lengthening the base peptide results in a less stringent motif. This is very useful in broadening the possibilities for identifying DP107-or DP-178-like primary amino acid sequences referred to in this document as "hits".

In addition to making highly specific motifs for each type peptide sequence to be searched, it is also possible to make "hybrid" motifs. These motifs are made by "crossing" two or more very stringent motifs to make a new search algorithm which will find not only both "parent" motif sequences but also any peptide sequences which have similarities to one, the other, or both "parents". For example, in FIG. 14 the "parent" sequence of GCN4 is crossed with each of the possible "parent" motifs of DP-107. Now the hybrid motif must contain all of the amino acids found in the A and D positions of both parents, and exclude all of the amino acids not found in either parent at the other positions. The resulting hybrid from crossing GCN4 or [LMNV]{CFGIMPTW} and DP107 (28-mer with the first L in the D position) or [ILQT]{CDFIMPST}, is [ILMNQTV]{CFIMPT}. Notice that now only two basic hybrid motifs exist which cover both framing possibilities, as well as all peptide lengths of the parent DP-107 molecule. FIG. 15 represents the "hybridizations" of GCN4 with DP-178. FIG. 16 represents the "hybridizations" of DP107 and DP178. It is important to keep in mind that the represented motifs, both parent and hybrid, are motif keys and not the depiction of the full-length motif needed to actually do the computer search.

Hybridizations can be performed on any combination of two or more motifs. FIG. 17 summarizes several three-motif hybridizations including GCN4, DP107 (both frames), and DP178 (also both frames). Notice that the resulting motifs are now becoming much more similar to each other. In fact, the first and third hybrid motifs are actually subsets of the second and fourth hybrid motifs respectively. This means that the first and third hybrid motifs are slightly more stringent than the second and fourth. It should also be noted that with only minor changes in these four motifs, or by hybridizing them, a single motif could be obtained which would find all of the sequences. However, it should be remembered that stringency is also reduced. Finally, the most broad-spectrum and least-stringent hybrid motif is described in FIG. 18 which summarizes the hybridization of GCN4, DP107 (both frames), DP178 (both frames), c-Fos, c-Jun, c-Myc, and Flu loop 36.

A special set of motifs was designed based on the fact that DP-178 is located only approximately ten amino acids upstream of the transmembrane spanning region of gp41 and just C-terminal to a proline which separates DP107 and DP178. It has been postulated that DP178 may be an amphipathic helix when membrane associated, and that the proline might aid in the initiation of the helix formation. The same arrangement was observed in Respiratory Syncytial Virus; however, the DP178-like region in this virus also had a leucine zipper just C-terminal to the proline. Therefore, N-terminal proline-leucine zipper motifs were designed to analyze whether any other viruses might contain this same pattern. The motifs are summarized in FIG. 19.

The PC/Gene protein database contains 5879 viral amino acid sequences (library file PVIRUSES; CD-ROM

release 11.0). Of these, 1092 are viral enveloped or glycoprotein sequences (library file PVIRUSE1). Tables V through XIV contain lists of protein sequence names and motif hit locations for all the motifs searched.

5

CL v/c 10. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION
OF DP107 AND DP178-LIKE SEQUENCES
IN HUMAN IMMUNODEFICIENCY VIRUS

P FIG. 20 represents search results for HIV-1 BRU isolate gp41 (PC/Gene protein sequence PENV_HV1BR). Notice that the hybrid motif which crosses DP-107 and DP-178 (named 107x178x4; the same motif as found in FIG. 16 found three hits including amino acids 550-599, 636-688, and 796-823. These areas include DP-107 plus eight N-terminal and four C-terminal amino acids; DP178 plus seven N-terminal and ten C-terminal amino acids; and an area inside the transmembrane region (cytoplasmic). FIG. 20 also contains the results obtained from searching with the motif named ALLMOTI5, for which the key is found in FIG. 17 ({CDGHP}{CFP}x5). This motif also found three hits including DP107 (amino acids 510-599), DP178 (615-717), and a cytoplasmic region (772-841). These hits overlap the hits found by the motif 107x178x4 with considerable additional sequences on both the amino and carboxy termini. This is not surprising in that 107x178x4 is a subset of the ALLMOTI5 hybrid motif. Importantly, even though the stringency of ALLMOTI5 is considerably less than 107x178x4, it still selectively identifies the DP107 and DP178 regions of gp41 shown to contain sequences for inhibitory peptides of HIV-1. The results of these two motif searches are summarized in Table V under the PC/Gene protein sequence name PENV HV1BR. The proline-leucine zipper motifs also gave several hits in HIV-1 BRU including 503-525 which is

at the very C-terminus of gp120, just upstream of the cleavage site (P7LZIPC and P12LZIPC); and 735-768 in the cytoplasmic domain of gp41 (P23LZIPC). These results are found in Tables VIII, IX, and X under the same sequence name as mentioned above. Notice that
5 the only area of HIV-1 BRU which is predicted by the Lupas algorithm to contain a coiled-coil region, is from amino acids 635-670. This begins eight amino acids N-terminal to the start and ends eight amino acids N-terminal to the end of DP178. DP107, despite
10 the fact that it is a known coiled coil, is not predicted to contain a coiled-coil region using the Lupas method.

CLV/L
15 11. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION
OF DP107-LIKE AND DP178-LIKE
SEQUENCES IN HUMAN RESPIRATORY
SYNCYTIAL VIRUS

FIG. 21 represents search results for Human Respiratory Syncytial Virus (RSV; Strain A2) fusion glycoprotein F1 (PC/Gene protein sequence name PVGLF_
20 HRSVA). Motif 107x178x4 finds three hits including amino acids 152-202, 213-243, and 488-515. The arrangement of these hits is similar to what is found in HIV-1 except that the motif finds two regions with
25 similarities to DP-178, one just downstream of what would be called the DP107 region or amino acids 213-243, and one just upstream of the transmembrane region (also similar to DP178) or amino acids 488-515. Motif ALLMOTI5 also finds three areas including amino acids
30 116-202, 267-302, and 506-549. The proline-leucine zipper motifs also gave several hits including amino acids 205-221 and 265-287 (P1LZIPC 265-280, P12LZIPC), and 484-513 (P7LZIPC and P12LZIPC 484-506, P23LZIPC). Notice that the PLZIP motifs also identify regions
35 which share location similarities with DP-178 of HIV-1.

CL 4/4 12. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF
DP107-LIKE AND DP178-LIKE SEQUENCES
IN SIMIAN IMMUNODEFICIENCY VIRUS

Motif hits for Simian immunodeficiency Virus gp41 (AGM3 isolate; PC/Gene protein sequence name
5 PENV_SIVAG) are shown in FIG. 22. Motif 107x178x4 finds three hits including amino acids 566-593, 597-624, and 703-730. The first two hits only have three amino acids between them and could probably be combined into one hit from 566-624 which would
10 represent a DP107-like hit. Amino acids 703 to 730 would then represent a DP178-like hit. ALLMOTI5 also finds three hits including amino acids 556-628 (DP107-like), 651-699 (DP178-like), and 808-852 which represents the transmembrane spanning region. SIV
15 also has one region from 655-692 with a high propensity to form a coiled coil as predicted by the Lupas algorithm. Both 107x178x4 and ALLMOTI5 motifs find the same region. SIV does not have any PLZIP motif hits in gp41.
20 The identification of DP178/DP107 analogs for a second SIV isolate (MM251) is demonstrated in the Example presented, below, in Section 19.

CL 4/4 13. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF
25 DP107-LIKE AND DP178 LIKE SEQUENCES
IN CANINE DISTEMPER VIRUS

Canine Distemper Virus (strain Onderstepoort) fusion glycoprotein F1 (PC/Gene Protein sequence name PVGLF_CDVO) has regions similar to Human RSV which are
30 predicted to be DP107-like and DP178-like (FIG. 23). Motif 107x178x4 highlights one area just C-terminal to the fusion peptide at amino acids 252-293. Amino acids 252-286 are also predicted to be coiled coil using the Lupas algorithm. Almost 100 amino acids C-
35 terminal to the first region is a DP178-like area at residues 340-367. ALLMOTI5 highlights three areas of

interest including: amino acids 228-297, which completely overlaps both the Lupas prediction and the DP107-like 107x178x4 hit; residues 340-381, which overlaps the second 107x178x4 hit; and amino acids 568-602, which is DP178-like in that it is located just N-terminal to the transmembrane region. It also overlaps another region (residues 570-602) predicted by the Lupas method to have a high propensity to form a coiled coil. Several PLZIP motifs successfully identified areas of interest including P6 and P12LZIPC which highlight residues 336-357 and 336-361 respectively; P1 and P12LZIPC which find residues 398-414; and P12 and P23LZIPC which find residues 562-589 and 562-592 respectively.

CLV/L 15 14. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF
DP107-LIKE AND DP178-LIKE SEQUENCES
IN NEWCASTLE DISEASE VIRUS

FIG. 24 shows the motif hits found in Newcastle Disease Virus (strain Australia-Victoria/32; PC Gene protein sequence name PVGLF_NDVA). Motif 107x178x4 finds two areas including a DP107-like hit at amino acids 151-178 and a DP178-like hit at residues 426-512. ALLMOTI5 finds three areas including residues 117-182, 231-272, and 426-512. The hits from 426-512 include a region which is predicted by the Lupas method to have a high coiled-coil propensity (460-503). The PLZIP motifs identify only one region of interest at amino acids 273-289 (P1 and 12LZIPC).

CLV/L 30 15. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION
OF DP107-LIKE AND DP178-LIKE
SEQUENCES IN HUMAN PARAINFLUENZA VIRUS

Both motifs 107x178x4 and ALLMOTI5 exhibit DP107-like hits in the same region, 115-182 and 117-182 respectively, of Human Parainfluenza Virus (strain NIH 47885; PC/Gene protein sequence name PVGLF_p13H4;

(FIG. 25). In addition, the two motifs have a DP178-like hit just slightly C-terminal at amino acids 207-241. Both motifs also have DP178-like hits nearer the transmembrane region including amino acids 457-497 and 462-512 respectively. Several PLZIP motif hits are also observed including 283-303 (P5LZIPC), 283-310 (P12LZIPC), 453-474 (P6LZIPC), and 453-481 (P23LZIPC). The Lupas algorithm predicts that amino acids 122-176 may have a propensity to form a coiled-coil.

CLV/L 10 16. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF
DP107-LIKE AND DP178-LIKE SEQUENCES OF
INFLUENZA A VIRUS

FIG. 26 illustrates the Lupas prediction for a coiled coil in Influenza A Virus (strain A/Aichi/2/68) at residues 379-436, as well as the motif hits for 107x178x4 at amino acids 387-453, and for ALLMOTI5 at residues 380-456. Residues 383-471 (38-125 of HA2) were shown by Carr and Kim to be an extended coiled coil when under acidic pH (Carr and Kim, 1993, Cell 73: 823-832). The Lupas algorithm predicts a coiled-coil at residues 379-436. All three methods successfully predicted the region shown to actually have coiled-coil structure; however, ALLMOTI5 predicted the greatest portion of the 88 residue stretch.

CLV/L 17. EXAMPLE: POTENTIAL RESPIRATORY SYNCYTIAL VIRUS
DP178/DP107 ANALOGS: CD AND
ANTIVIRAL CHARACTERIZATION

In the Example presented herein, respiratory syncytial virus (RSV) peptides identified by utilizing the computer-assisted search motifs described in the Examples presented in Sections 9 and 11, above, were tested for anti-RSV activity. Additionally, circular dichroism (CD) structural analyses were conducted on the peptides, as discussed below. It is demonstrated

that several of the identified peptides exhibit potent antiviral capability. Additionally, it is shown that several of these peptides exhibit a substantial helical character.

5 CLV/L 17.1 MATERIALS AND METHODS

p Structural analyses: The CD spectra were measured in a 10mM sodium phosphate, 150mM sodium chloride, pH 7.0, buffer at approximately 10mM concentrations, using a 1 cm pathlength cell on a
10 Jobin/Yvon Autodichrograph Mark V CD spectrophotometer. Peptides were synthesized according to the methods described, above, in Section 6.1. Peptide concentrations were determined from A₂₈₀ using Edlehoch's method (1967, Biochemistry 6:1948).

15 p Anti-RSV antiviral activity assays: The assay utilized herein tested the ability of the peptides to disrupt the ability of HEp2 cells acutely infected with RSV (i.e., cells which are infected with a multiplicity of infection of greater than 2) to fuse
20 and cause syncytial formation on a monolayer of uninfected an uninfected line of Hep-2 cells. The lower the observed level of fusion, the greater the antiviral activity of the peptide was determined to be.

25 p Uninfected confluent monolayers of Hep-2 cells were grown in microtiter wells in 3% EMEM (Eagle Minimum Essential Medium w/o L-glutamine [Bio Whittaker Cat. No. 12-125F], with fetal bovine serum [FBS; which had been heat inactivated for 30 minutes
30 at 56°C; Bio Whittaker Cat. No. 14-501F) supplemented at 3%, antibiotics (penicillin/streptomycin; Bio Whittaker Cat. No. 17-602E) added at 1%, and glutamine added at 1%.

35 p To prepare Hep2 cells for addition to uninfected cells, cultures of acutely infected Hep2 cells were

washed with DPBS (Dulbecco's Phosphate Buffered Saline w/o calcium or magnesium; Bio Whittaker Cat. No. 17-512F) and cell monolayers were removed with Versene (1:5000; Gibco Life Technologies Cat. No. 15040-017). The cells were spun 10 minutes and resuspended in 3% FBS. Cell counts were performed using a hemacytometer. Persistent cells were added to the uninfected Hep-2 cells.

The antiviral assay was conducted by, first, removing all media from the wells containing uninfected Hep-2 cells, then adding peptides (at the dilutions described below) in 3% EMEM, and 100 acutely RSV-infected Hep2 cells per well. Wells were then incubated at 37°C for 48 hours.

After incubation, cells in control wells were checked for fusion centers, media was removed from the wells, followed by addition, to each well, of either Crystal Violet stain or XTT. With respect to Crystal Violet, approximately 50µl 0.25% Crystal Violet stain in methanol were added to each well. The wells were rinsed immediately, to remove excess stain, and were allowed to dry. The number of syncytia per well were then counted, using a dissecting microscope.

With respect to XTT (2,3-bis[2-Methoxy-4-nitro-5-sulfophenyl]-2H-tetrazolium-5-carboxyanilide inner salt), 50µl XTT (1mg/ml in RPMI buffered with 100mM HEPES, pH 7.2-7.4, plus 5% DMSO) were added to each well. The OD_{450/690} was measured (after blanking against growth medium without cells or reagents, and against reagents) according to standard procedures.

Peptides: The peptides characterized in the study presented herein were:

1) peptides T-142 to T-155 and T-575, as shown in FIG. 27A, and peptides T-22 to T-27, T-68, T-334 and T-371 to T-375 and T-575, as shown in FIG. 27B;

p+b

2) peptides T-120 to T-141 and T-576, as shown in FIG. 27B, and peptides T-12, T-13, T-15, T-19, T-28 to T-30, T-66, T-69, T-70 and T-576, as shown in FIG. 27D; and

p+b

5 3) peptides T-67 and T-104 to T-119 and T-384, as shown in FIG. 28A, and peptides T-71, T-613 to T-617, T-662 to T-676 and T-730, as shown in FIG. 28B.

P The peptides of group 1 represent portions of the RSV F2 protein DP178/107-like region. The peptides of group 2 represent portions of the RSV F1 protein DP107-like region. The peptides of groups 3 represent portions of the RSV F1 protein DP178-like region.

10 P Each peptide was tested at 2-fold serial dilutions ranging from 100µg/ml to approximately 100ng/ml. For each of the assays, a well containing no peptide was also used. The IC₅₀ data for each peptide represents the average of several experiments conducted utilizing that peptide.

CLU/C 17.2 RESULTS

20 P The data summarized in FIGS. 27A-B and 28A-B represent antiviral and structural information obtained from peptides derived from the RSV F2 DP178/DP107-like F2 region (FIG. 27A-B), the RSV F1 DP-107-like region (FIG. 27C-D) and the RSV DP178-like F2 region (FIG. 28A-B).

25 P As shown in FIGS. 27A-D, a number of the RSV DP178/DP107-like peptides exhibited a detectable level of antiviral activity. Peptides from the RSV DP178/DP107-like F2 region (FIG. 27A-B), for example, T-142 to T-145 and T-334 purified peptides, exhibited detectable levels of antiviral activity, as evidenced by their IC₅₀ values. Further, a number of RSV F1 DP107-like peptides (FIG. 27C-D) exhibited a sizable level of antiviral activity as purified peptides, including, for example, peptides T-124 to T-127, T-

131, T-135 and T-137 to T-139, as demonstrated by their low IC₅₀ values. In addition, CD analysis FIG. 27A, 27C) reveals that many of the peptides exhibit some detectable level of helical structure.

5 The results summarized in FIG. 28A-B demonstrate that a number of DP178-like purified peptides exhibit a range of potent anti-viral activity. These peptides include, for example, T-67, T-104, T-105 and T-107 to T-119, as listed in FIG. 28A, and T-665 to T-669 and T-671 to T-673, as listed in FIG. 28B. In addition,
10 some of the DP178-like peptides exhibited some level of helicity.

Thus, the computer assisted searches described, hereinabove, successfully identified viral peptide domains that represent highly promising anti-RSV
15 antiviral compounds.

CLV/L 18. EXAMPLE: POTENTIAL HUMAN PARAINFLUENZA VIRUS
TYPE 3 DP178/DP107 ANALOGS: CD AND
ANTIVIRAL CHARACTERIZATION

20 In the Example presented herein, human parainfluenza virus type 3 (HPIV3) peptides identified by utilizing the computer-assisted search motifs described in the Examples presented in Sections 9 and 15, above, were tested for anti-HPIV3 activity.
25 Additionally, circular dichroism (CD) structural analyses were conducted on the peptides, as discussed below. It is demonstrated that several of the identified peptides exhibit potent antiviral capability. Additionally, it is shown that several of
30 these peptides exhibit a substantial helical character.

CLV/L 18.1 MATERIALS AND METHODS
Structural analyses: Structural analyses
35 consisted of circular dichroism (CD) studies. The CD

spectra were measured in a 10mM sodium phosphate, 150mM sodium chloride, pH 7.0, buffer at approximately 10mM concentrations, using a 1 cm pathlength cell on a Jobin/Yvon Autodichrograph Mark V CD

5 spectrophotometer. Peptide concentrations were determined from A_{280} using Edlehoch's method (1967, Biochemistry 6:1948).

ρ Anti-HPIV3 antiviral activity assays: The assay utilized herein tested the ability of the peptides to disrupt the ability of Hep2 cells chronically infected
10 with HPIV3 to fuse and cause syncytial formation on a monolayer of an uninfected line of CV-1W cells. The more potent the lower the observed level of fusion, the greater the antiviral activity of the peptide.

ρ Uninfected confluent monolayers of CV-1W cells
15 were grown in microtiter wells in 3% EMEM (Eagle Minimum Essential Medium w/o L-glutamine [Bio Whittaker Cat. No. 12-125F], with fetal bovine serum [FBS; which had been heat inactivated for 30 minutes at 56°C; Bio Whittaker Cat. No. 14-501F) supplemented
20 at 3%, antibiotics/antimycotics (Gibco BRL Life Technologies Cat. No. 15040-017) added at 1%, and glutamine added at 1%.

ρ To prepare Hep2 cells for addition to uninfected cells, cultures of chronically infected Hep2 cells
25 were washed with DPBS (Dulbecco's Phosphate Buffered Saline w/o calcium or magnesium; Bio Whittaker Cat. No. 17-512F) and cell monolayers were removed with Versene (1:5000; Gibco Life Technologies Cat. No. 15040-017). The cells were spun 10 minutes and
30 resuspended in 3% FBS. Cell counts were performed using a hemacytometer. Persistent cells were added to the uninfected CV-1W cells.

ρ The antiviral assay was conducted by, first, removing all media from the wells containing
35 uninfected CV-1W cells, then adding peptides (at the

dilutions described below) in 3% EMEM, and 500 chronically HPIV3-infected Hep2 cells per well. Wells were then incubated at 37°C for 24 hours.

5 P On day 2, after cells in control wells were checked for fusion centers, media was removed from the wells, followed by addition, to each well, of approximately 50µl 0.25% Crystal Violet stain in methanol. Wells were rinsed immediately, to remove excess stain and were then allowed to dry. The number of syncytia per well were then counted, using a
10 dissecting microscope.

P Alternatively, instead of Crystal Violet analysis, cells were assayed with XTT, as described, ^{above} ~~above~~, in Section 17.1.

15 P Peptides: The peptides characterized in the study presented herein were:

- 1) Peptides 157 to 188, as shown in FIG. 29A, and peptides T-38 to T-40, T-42 to T-46 and T-582, as shown in FIG. 29B. These peptides are derived from the DP107 region of the HPIV3 F1 fusion protein (represented by HPF3 107, as shown in FIG. 29A); and
20
2) Peptides 189 to 210, as shown in FIG. 30A, and T-269, T-626, T-383 and T-577 to T-579, as shown in FIG. 30B. These peptides are primarily derived from the DP178 region of the HPIV3 F1 fusion protein (represented by HPF3 178, as shown in FIG. 30A). Peptide T-626 contains two mutated amino acid residues (represented by a shaded background). Additionally, peptide T-577
25
30 represents F1 amino acids 65-100, T-578 represents F1 amino acids 207-242 and T-579 represents F1 amino acids 273-309.

35 P Each peptide was tested at 2-fold serial dilutions ranging from 500µg/ml to approximately

500ng/ml. For each of the assays, a well containing no peptide was also used.

CL V/C. 18.2 RESULTS

5 The data summarized in FIGS. 29A-C and 30A-B represent antiviral and structural information obtained from peptides derived from the HPIV3 fusion protein DP107-like region (FIG. 29A-C) and the HPIV3 fusion protein DP178-like region (FIG. 30A-B).

10 As shown in FIG. 29A-B, a number of the HPIV3 DP107-like peptides exhibited potent levels of antiviral activity. These peptides include, for example, peptides T-40, T-172 to T-175, T-178, T-184 and T-185.

15 CD analysis reveals that a number of the peptides exhibit detectable to substantial level of helical structure. The CD spectra for one of the peptides, 184, which exhibits substantial helicity is summarized in FIG. 29C.

20 The results summarized in FIG. 30A-B demonstrate that a number of the DP178-like peptides tested exhibit a range of anti-viral activity. These peptides include, for example, peptides 194 to 211, as evidenced by their low IC₅₀ values. In fact, peptides 201 to 205 exhibit IC₅₀ values in the nanogram/ml
25 range. In addition, many of the DP178-like peptides exhibited some level of helicity.

30 Thus, the computer assisted searches described, hereinabove, have successfully identified viral peptide domains that represent highly promising anti-HPIV3 antiviral compounds.

CL V/C 19. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP178/DP107 ANALOGS IN SIMIAN IMMUNODEFICIENCY VIRUS

35 FIG. 31 represents search results for SIV isolate MM251 (PC/Gene® protein sequence PENV_SIVM2). Both

107x178x4 and ALLMOTI5 search motifs identified two regions with similarities to DP107 and/or DP178.

The peptide regions found by 107x178x4 were located at amino acid residues 156-215 and 277-289. The peptide regions found by ALLMOTI5 were located at amino acid residues 156-219 and 245-286. Both motifs, therefore, identify similar regions.

Interestingly, the first SIV peptide region (i.e., from amino acid residue 156 to approximately amino acid residue 219) correlates with a DP107 region, while the second region identified (i.e., from approximately amino acid residue 245 to approximately amino acid residue 289) correlates with the DP178 region of HIV. In fact, an alignment of SIV isolate MM251 and HIV isolate BRU, followed by a selection of the best peptide matches for HIV DP107 and DP178, reveals that the best matches are found within the peptide regions identified by the 107x178x4 and ALLMOTI5 search motifs.

It should be noted that a potential coiled-coil region at amino acid residues 242-282 is predicted by the Lupas program. This is similar to the observation in HIV in which the coiled-coil is predicted by the Lupas program to be in the DP178 rather than in the DP107 region. It is possible, therefore, that SIV may be similar to HIV in that it may contain a coiled-coil structure in the DP107 region, despite such a structure being missed by the Lupas algorithm. Likewise, it may be that the region corresponding to a DP178 analog in SIV may exhibit an undefined structure, despite the Lupas program's prediction of a coiled-coil structure.

35

CLV/L 20. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF
DP178/DP107 ANALOGS IN EPSTEIN-BARR
VIRUS

The results presented herein describe the identification of DP178/DP107 analogs within two different Epstein-Barr Virus proteins. Epstein-Barr is a human herpes virus which is the causative agent of, for example, infectious mononucleosis (IM), and is also associated with nasopharyngeal carcinomas (NPC), Burkitt's lymphoma and other diseases. The virus predominantly exists in the latent form and is activated by a variety of stimuli.

FIG. 32 depicts the search motif results for the Epstein-Barr Virus (Strain B95-8; PC/Gene® protein sequence PVGLB_EBV) glycoprotein gp110 precursor (gp115). The 107x178x4 motif identified two regions of interest, namely the regions covered by amino acid residues 95-122 and 631-658. One PZIP region was identified at amino acid residue 732-752 which is most likely a cytoplasmic region of the protein. The Lupas algorithm predicts a coiled-coil structure for amino acids 657-684. No ALLMOTI5 regions were identified.

FIG. 33 depicts the search motif results for the Zebra (or EB1) trans-activator protein (BZLF1) of the above-identified Epstein-Barr virus. This protein is a transcription factor which represents the primary mediator of viral reactivation. It is a member of the b-ZIP family of transcription factors and shares significant homology with the basic DNA-binding and dimerization domains of the cellular oncogenes c-fos and C/EBP. The Zebra protein functions as a homodimer.

Search results demonstrate that the Zebra protein exhibits a single region which is predicted to be either of DP107 or DP178 similarity, and is found between the known DNA binding and dimerization regions of the protein. Specifically, this region is located

at amino acid residues 193-220, as shown in FIG. 33.
The Lupas program predicted no coiled-coil regions.

CLV/L 21. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF
DP178/DP107 ANALOGS IN MEASLES VIRUS

5 FIG. 34 illustrates the motif search results for
the fusion protein F1 of measles virus, strain
Edmonston (PC Gene® protein sequence PVGLF_MEASE),
successfully identifying DP178/DP107 analogs.

The 107x178x4 motif identifies a single region at
10 amino acid residues 228-262. The ALLMOTI5 search
motif identifies three regions, including amino acid
residues 116-184, 228-269 and 452-500. Three regions
containing proline residues followed by a leucine
zipper-like sequence were found beginning at proline
15 residues 214, 286 and 451.

The Lupas program identified two regions it
predicted had potential for coiled-coil structure,
which include amino acid residues 141-172 and 444-483.

CLV/L 20 22. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF
DP178/DP107 ANALOGS IN HEPATITIS B
VIRUS

FIG. 35 depicts the results of a PZIP motif
search conducted on the Hepatitis B virus subtype AYW.
Two regions of interest within the major surface
25 antigen precursor S protein were identified. The
first lies just C-terminal to the proposed fusion
peptide of the major surface antigen (Hbs) which is
found at amino acid residues 174-191. The second
region is located at amino acid residues 233-267. The
30 Lupas program predicts no coiled-coil repeat regions.

In order to test the potential anti-HBV antiviral
activity of these D178/DP107 analog regions, peptides
derived from area around the analog regions are
synthesized, as shown in FIG. 52A-B. These peptides
35 represent one amino acid peptide "walks" through the

putative DP178/DP107 analog regions. The peptides are synthesized according to standard Fmoc chemistry on Rinkamide MBHA resins to provide for carboxy terminal blockade (Chang, C.D. and Meinhofer, J., 1978, Int. J. Pept. Protein Res. 11:246-249; Fields, G.B. and Noble, R.L., 1990, Int. J. Pept. Protein Res. 35:161-214). Following complete synthesis, the peptide amino-terminus is blocked through automated acetylation and the peptide is cleaved with trifluoroacetic acid (TFA) and the appropriate scavengers (King, D.S. et al., 1990, Int. J. Pept. Res. 36:255-266). After cleavage, the peptide is precipitated with ether and dried under vacuum for 24 hours.

The anti-HBV activity of the peptides is tested by utilizing standard assays to determine the test peptide concentration required to cause an acceptable (e.g., 90%) decrease in the amount of viral progeny formed by cells exposed to an HBV viral inoculum. Candidate antiviral peptides are further characterized in model systems such as wood chuck tissue culture and animal systems, prior to testing on humans.

23. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP178/DP107 ANALOGS IN SIMIAN MASON-PFIZER MONKEY VIRUS

The results depicted herein illustrate the results of search motifs conducted on the Simian Mason-Pfizer monkey virus. The motifs reveal DP178/DP107 analogs within the enveloped (TM) protein GP20, as shown in FIG. 36.

The 107x178x4 motifs identifies a region at amino acid residues 422-470. The ALLMOTI5 finds a region at amino acid residues 408-474. The Lupas program predicted a coiled-coil structure a amino acids 424-459.

020/L 24. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF
DP178/DP107 ANALOGS IN BACTERIAL
PROTEINS

The results presented herein demonstrate the identification of DP178/DP107 analogs corresponding to sequences present in proteins of a variety of bacterial species.

FIG. 37 depicts the search motif results for the *Pseudomonas aeruginosa* fimbrial protein (Pilin). Two regions were identified by motifs 107x178x4 and ALLMOTI5. The regions located at amino acid residues 30-67 and 80-144 were identified by the 107x178x4 motif. The regions at amino acid residues 30-68 and 80-125 were identified by the ALLMOTI5.

FIG. 38 depicts the search motif results for the *Pseudomonas gonorrhoeae* fimbrial protein (Pilin). A single region was identified by both the 107x178x4 and the ALLMOTI5 motifs. The region located at amino acid residues 66-97 was identified by the 107x178x4 motif. The region located at amino acid residues 66-125 were identified by the ALLMOTI5 search motif. No coiled-coil regions were predicted by the Lupas program.

FIG. 39 depicts the search motif results for the *Hemophilus Influenza* fimbrial protein (Pilin). A single region was identified by both the 107x178x4 and the ALLMOTI5 motifs. The region located at amino acid residues 102-129 was identified by the 107x178x4 motif. The region located at amino acid residues 102-148 were identified by the ALLMOTI5 search motif. No coiled-coil regions were predicted by the Lupas program.

FIG. 40 depicts the search motif results for the *Staphylococcus aureus* toxic shock syndrome *Hemophilus Influenza* fimbrial protein (Pilin). A single region was identified by both the 107x178x4 and the ALLMOTI5 motifs. The region located at amino acid residues 102-129 was identified by the 107x178x4 motif. The

region located at amino acid residues 102-148 were identified by the ALLMOTI5 search motif. No coiled-coil regions were predicted by the Lupas program.

FIG. 41 summarizes the motif search results conducted on the Staphylococcus aureus enterotoxin Type E protein. These results demonstrate the successful identification of DP178/DP107 analogs corresponding to peptide sequences within this protein, as described below.

The ALLMOTI5 motif identified a region at amino acid residues 22-27. The 107x178x4 motif identified two regions, with the first at amino acid residues 26-69 and the second at 88-115. A P12LZIPC motif search identified two regions, at amino acid residues 163-181 and 230-250.

The Lupas program predicted a region with a high propensity for coiling at amino acid residues 25-54. This sequence is completely contained within the first region identified by both ALLMOTI5 and 107x178x4 motifs.

FIG. 42 depicts the search motif results conducted on a second Staphylococcus aureus toxin, enterotoxin A. Two regions were identified by the ALLMOTI5 motif, at amino acid residues 22-70 and amino acid residues 164-205. The 107x178x4 motif found two regions, the first at amino acid residues 26-69 and the second at amino acid residues 165-192. A P23LZIPC motif search revealed a region at amino acid residues 216-250. No coiled-coil regions were predicted by the Lupas program.

FIG. 43 shows the motif search results conducted on the E. coli heat labile enterotoxin A protein, demonstrating that identification of DP178/DP107 analogs corresponding to peptides located within this protein. Two regions were identified by the ALLMOTI5 motif, with the first residing at amino acid residues

55-115, and the second residing at amino acid residues 216-254. The 107x178x4 motif identified a single region at amino acid residues 78-105. No coiled-coil regions were predicted by the Lupas program.

CLV/L 5 25. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF
DP178/DP107 ANALOGS WITHIN VARIOUS
HUMAN PROTEINS

10 The results presented herein demonstrate the identification of DP178/DP107 analogs corresponding to peptide sequences present within several different human proteins.

15 FIG. 44 illustrates the search motif results conducted on the human c-fos oncoprotein. The ALLMOTI5 motif identified a single region at amino acid residues 155-193. The 107x178x4 motif identified one region at amino acid residues 162-193. The Lupas program predicted a region at amino acid residues 148-201 to have coiled-coil structure.

20 FIG. 45 illustrates the search motif results conducted on the human lupus KU autoantigen protein P70. The ALLMOTI5 motif identified a single region at amino acid residues 229-280. The 107x178x4 motif identified one region at amino acid residues 235-292. The Lupas program predicted a region at amino acid residues 232-267 to have coiled-coil structure.

25 FIG. 46 illustrates the search motif results conducted on the human zinc finger protein 10. The ALLMOTI5 motif identified a single region at amino acid residues 29-81. The 107x178x4 motif identified one region at amino acid residues 29-56. A P23LZIPC motif search found a single region at amino acid residues 420-457. The Lupas program predicted no coiled-coil regions.

35

CLV/L 26. EXAMPLE: POTENTIAL MEASLES VIRUS DP178/DP107
ANALOGS: CD AND ANTIVIRAL
CHARACTERIZATION

5 In the Example presented herein, measles (MeV) virus DP178-like peptides identified by utilizing the computer-assisted search motifs described in the Examples presented in Sections 9 and 21, above, are tested for anti-MeV activity. Additionally, circular dichroism (CD) structural analyses are conducted on the peptides, as discussed below. It is demonstrated
10 that several of the identified peptides exhibit potent antiviral capability. Additionally, it is shown that none of the these peptides exhibit a substantial helical character.

CLV/L 15 26.1 MATERIALS AND METHODS

P Structural analyses: The CD spectra were measured in a 10mM sodium phosphate, 150mM sodium chloride, pH 7.0, buffer at approximately 10mM concentrations, using a 1 cm pathlength cell on a
20 Jobin/Yvon Autodichrograph Mark V CD spectrophotometer. Peptide concentrations were determined from A₂₈₀ using Edlehoch's method (1967, Biochemistry 6:1948).

P Anti-MeV antiviral activity syncytial reduction assay:
25 The assay utilized herein tested the ability of the peptides to disrupt the ability of Vero cells acutely infected with MeV (i.e., cells which are infected with a multiplicity of infection of 2-3) to fuse and cause syncytial formation on a monolayer of
30 an uninfected line of Vero cells. The more potent the peptide, the lower the observed level of fusion, the greater the antiviral activity of the peptide.

P Uninfected confluent monolayers of Vero cells were grown in microtiter wells in 10% FBS EMEM (Eagle
35 Minimum Essential Medium w/o L-glutamine [Bio Whittaker Cat. No. 12-125F], with fetal bovine serum

[FBS; which had been heat inactivated for 30 minutes at 56°C; Bio Whittaker Cat. No. 14-501F) supplemented at 10%, antibiotics/antimycotics (Bio Whittaker Cat. No. 17-602E) added at 1%, and glutamine added at 1%.

5 P To prepare acutely infected Vero cells for addition to the uninfected cells, cultures of acutely infected Vero cells were washed twice with HBSS (Bio Whittaker Cat. No. 10-543F) and cell monolayers were removed with trypsin (Bio Whittaker Cat. No. 17-161E).
10 Once cells detached, media was added, any remaining clumps of cells were dispersed, and hemacytometer cell counts were performed.

P The antiviral assay was conducted by, first, removing all media from the wells containing uninfected Vero cells, then adding peptides (at the
15 dilutions described below) in 10% FBS EMEM, and 50-100 acutely MeV-infected Vero cells per well. Wells were then incubated at 37°C for a maximum of 18 hours.

P On day 2, after cells in control wells were checked for fusion centers, media was removed from the
20 wells, followed by addition, to each well, of approximately 50µl 0.25% Crystal Violet stain in methanol. Wells were rinsed twice with water immediately, to remove excess stain and were then allowed to dry. The number of syncytia per well were
25 then counted, using a dissecting microscope.

P Anti-MeV antiviral activity plaque reduction assay: The assay utilized herein tested the ability of the peptides to disrupt the ability of MeV to infect permissive, uninfected Vero cells, leading to
30 the infected cells' fusing with uninfected cells to produce syncytia. The lower the observed level of syncytial formation, the greater the antiviral activity of the peptide.

P Monolayers of uninfected Vero cells are grown as
35 described above.

The antiviral assay was conducted by, first, removing all media from the wells containing uninfected Vero cells, then adding peptides (at the dilutions described below) in 10% FBS EMEM, and MeV stock virus at a final concentration of 30 plaque forming units (PFU) per well. Wells were then incubated at 37°C for a minimum of 36 hours and a maximum of 48 hours.

On day 2, after cells in control wells were checked for fusion centers, media was removed from the wells, followed by addition, to each well, of approximately 50µl 0.25% Crystal Violet stain in methanol. Wells were rinsed twice with water immediately, to remove excess stain and were then allowed to dry. The number of syncytia per well were then counted, using a dissecting microscope.

Peptides: The peptides characterized in the study presented herein were peptides T-252A0 to T-256A0, T-257B1/C1, and T-258B1 to T-265B0, and T-266A0 to T-268A0, as shown in FIG. 47. These peptides represent a walk through the DP178-like region of the MeV fusion protein.

Each peptide was tested at 2-fold serial dilutions ranging from 100µg/ml to approximately 100ng/ml. For each of the assays, a well containing no peptide was also used.

CLV/C 26.2 RESULTS

The data summarized in FIG. 47 represents antiviral and structural information obtained via "peptide walks" through the DP178-like region of the MeV fusion protein.

As shown in FIG. 47, the MeV DP178-like peptides exhibited a range of antiviral activity as crude peptides. Several of these peptides were chosen for purification and further antiviral characterization.

The IC₅₀ values for such peptides were determined, as shown in FIG. 47, and ranged from 1.35µg/ml (T-257B1/C1) to 0.072µg/ml (T-265B1). None of the DP178-like peptides showed, by CD analysis, a detectable level of helicity.

5 Thus, the computer assisted searches described, hereinabove, as in for example, the Example presented in Section 9, for example, successfully identified viral peptide domains that represent highly promising anti-MeV antiviral compounds.

10

CLV/L 27. EXAMPLE: POTENTIAL SIV DP178/DP107 ANALOGS:
ANTIVIRAL CHARACTERIZATION

In the Example presented herein, simian immunodeficiency virus (SIV) DP178-like peptides
15 identified by utilizing the computer-assisted search motifs described in the Examples presented in Sections 9, 12 and 19, above, were tested for anti-SIV activity. It is demonstrated that several of the identified peptides exhibit potent antiviral
20 capability.

CLV/L 27.1 MATERIALS AND METHODS

Anti-SIV antiviral assays: The assay utilized herein were as reported in Langolis et al. (Langolis,
25 A.J. et al., 1991, AIDS Research and Human Retroviruses 7:713-720).

Peptides: The peptides characterized in the study presented herein were peptides T-391 to T-400, as shown in FIG. 48. These peptides represent a walk
30 through the DP178-like region of the SIV TM protein.

Each peptide was tested at 2-fold serial dilutions ranging from 100µg/ml to approximately 100ng/ml. For each of the assays, a well containing no peptide was also used.

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CL V/c. 27.2 RESULTS

The data summarized in FIG. 48 represents antiviral information obtained via "peptide walks" through the DP178-like region of the SIV TM protein.

5 As shown in FIG. 48, peptides T-391 to T-400 were tested and exhibited a potent antiviral activity as crude peptides.

10 Thus, the computer assisted searches described, hereinabove, as in for example, the Example presented in Section 9, for example, successfully identified viral peptide domains that represent highly promising anti-SIV antiviral compounds.

CL V/c 28. EXAMPLE: ANTI-VIRAL ACTIVITY OF DP107 AND DP-178 PEPTIDE TRUNCATIONS AND MUTATIONS

15 The Example presented in this Section represents a study of the antiviral activity of DP107 and DP178 truncations and mutations. It is demonstrated that several of these DP107 and DP178 modified peptides exhibit substantial antiviral activity.

20 CL V/c 28.1 MATERIALS AND METHODS

P Anti-HIV assays: The antiviral assays performed were as those described, above, in Section 6.1. Assays utilized HIV-1/IIIB and/or HIV-2 NIHZ isolates.
25 Purified peptides were used, unless otherwise noted in FIGS. 49A-C.

P Peptides: The peptides characterized in the study presented herein were:

- P 1) FIGS. 49A-C present peptides derived from
30 the region around and containing the DP178 region of the HIV-1 BRU isolate. Specifically, this region spanned from gp41 amino acid residue 615 to amino acid residue 717. The peptides listed contain
35 truncations of this region and/or mutations

5 + Ptb 2)

which vary from the DP178 sequence amino acid sequence. Further, certain of the peptides have had amino- and/or carboxy-terminal groups either added or removed, as indicated in the figures; and FIG. 50. presents peptides which represent truncations of DP107 and/or the gp41 region surrounding the DP107 amino acid sequence of HIV-1 BRU isolate. Certain of the peptides are unblocked or biotinylated, as indicated in the figure.

Blocked peptides contained an acyl N-terminus and an amido C-terminus.

CL v/c. 28.2 RESULTS

Anti-HIV antiviral data was obtained with the group 1 DP178-derived peptides listed in FIG. 49A-C. The full-length, non-mutant DP178 peptide (referred to in FIG. 49A-C as T20) results shown are for 4ng/ml.

In FIG. 49A, a number of the DP178 truncations exhibited a high level of antiviral activity, as evidenced by their low IC_{50} values. These include, for example, test peptides T-50, T-624, T-636 to T-641, T-645 to T-650, T-652 to T-654 and T-656. T-50 represents a test peptide which contains a point mutation, as indicated by the residue's shaded background. The HIV-1-derived test peptides exhibited a distinct strain-specific antiviral activity, in that none of the peptides tested on the HIV-2 NIHZ isolate demonstrated appreciable antti-HIV-2 antiviral activity.

Among the peptides listed in FIG. 49B, are test peptides representing the amino (T-4) and carboxy (T-3) terminal halves of DP178 were tested. The amino terminal peptide was not active ($IC_{50} > 400 \mu g/ml$) whereas the carboxy terminal peptide showed potent antiviral

activity ($IC_{50} = 3\mu g/ml$). A number of additional test peptides also exhibited a high level of antiviral activity. These included, for example, T-61/T-102, T-217 to T-221, T-235, T-381, T-677, T-377, T-590, T-378, T-591, T-271 to T-272, T-611, T-222 to T-223 and T-60/T-224. Certain of the antiviral peptides contain point mutations and/or amino acid residue additions which vary from the DP178 amino acid sequence.

In FIG. 49C, point mutations and/or amino and/or carboxy-terminal modifications are introduced into the DP178 amino acid sequence itself. As shown in the figure, the majority of the test peptides listed exhibit potent antiviral activity.

Truncations of the DP107 peptide (referred to in IG. 50 as T21) were also produced and tested, as shown in FIG. 50. FIG. 50 also presents data concerning blocked and unblocked peptides which contain additional amino acid residues from the gp41 region in which the DP107 sequence resides. Most of these peptides showed antiviral activity, as evidenced by their low IC_{50} values.

Thus, the results presented in this Section demonstrate that not only do the full length DP107 and DP178 peptides exhibit potent antiviral activity, but truncations and/or mutant versions of these peptides can also possess substantial antiviral character.

CL U/L 29: EXAMPLE: POTENTIAL EPSTEIN-BARR DP178/DP107
ANALOGS: ANTIVIRAL CHARACTERIZATION

In the Example presented herein, peptides derived from the Epstein-Barr (EBV) DP-178/DP107 analog region of the Zebra protein identified, above, in the Example presented in Section 20 are described and tested for anti-EBV activity. It is demonstrated that among these peptides are ones which exhibit potential antiviral activity.

CL 0/L

29.1 MATERIALS AND METHODS

Electrophoretic Mobility Shift Assays (EMSA):

Briefly, an EBV Zebra protein was synthesized utilizing SP6 RNA polymerase in vitro transcription and wheat germ in vitro translation systems (Promega Corporation recommendations; Butler, E.T. and Chamberlain, M.J., 1984, J. Biol. Chem. 257:5772; Pelham, H.R.B. and Jackson, R.J., 1976, Eur. J. Biochem. 67:247). The in vitro translated Zebra protein was then preincubated with increasing amounts of peptide up to 250 ng/ml prior to the addition of 10,000 to 20,000 c.p.m. of a ³²P-labeled Zebra response element DNA fragment. After a 20 minute incubation in the presence of the response element, the reaction was analyzed on a 4% non-denaturing polyacrylamide gel, followed by autoradiography, utilizing standard gel-shift procedures. The ability of a test peptide to prevent Zebra homodimer DNA binding was assayed by the peptide's ability to abolish the response element gel migration retardation characteristic of a protein-bound nucleic acid molecule.

Peptides: The peptides characterized in this study represent peptide walks through the region containing, and flanked on both sides by, the DP178/DP107 analog region identified in the Example presented in Section 20, above, and shown as shown in FIG. 33. Specifically, the peptide walks covered the region from amino acid residue 173 to amino acid residue 246 of the EBV Zebra protein.

Each of the tested peptides were analyzed at a range of concentrations, with 150ng/ml being the lowest concentration at which any of the peptides exerted an inhibitory effect.

AL v/c 29.2 RESULTS

The EBV Zebra protein transcription factor contains a DP178/DP107 analog region, as demonstrated in the Example presented, above, in Section 20. This protein appears to be the primary factor responsible
5 for the reactivation capability of the virus. A method by which the DNA-binding function of the Zebra virus may be abolished may, therefore, represent an effective antiviral technique. In order to identify potential anti-EBV DP178/DP107 peptides, therefore,
10 peptides derived from the region identified in Section 20, above, were tested for their ability to inhibit Zebra protein DNA binding.

The test peptides' ability to inhibit Zebra protein DNA binding was assayed via the EMSA assays
15 described, above, in Section 28.1. The data summarized in FIG. 51A-B presents the results of EMSA assays of the listed EBV test peptides. These peptides represent one amino acid "walks" through the region containing, and flanked on both sides by, the
20 DP178/DP107 analog region identified in the Example presented in Section 20, above, and shown as shown in FIG. 33. As shown in FIG. 51A-B, the region from which these peptides are derived lies from EBV Zebra protein amino acid residue 173 to 246. A number of
25 the test peptides which were assayed exhibited an ability to inhibit Zebra protein homodimer DNA binding, including 439, 441, 444 and 445.

Those peptides which exhibit an ability to inhibit Zebra protein DNA binding represent potential
30 anti-EBV antiviral compounds whose ability to inhibit EBV infection can be further characterized.

The present invention is not to be limited in scope by the specific embodiments described which are
35 intended as single illustrations of individual aspects

of the invention, and functionally equivalent methods
and components are within the scope of the invention.
Indeed, various modifications of the invention, in
addition to those shown and described herein will
become apparent to those skilled in the art from the
5 foregoing description and accompanying drawings. Such
modifications are intended to fall within the scope of
the appended claims.

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